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MEDICINE

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OXFORD

COUNTY OF ANGLESEY

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE YEAR 1951

G. WYNNE GRIFFITH,
M.D., D.P.H.

W. O. Jones (Printers) Ltd., Foundry Printing Works, Llangefni.

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To :—

The Chairman and Members of the Health Committee.

My Lord, Ladies and Gentlemen,

I have the honour to present the fortieth Annual Report of the County Medical Officer, being a report on the health of the county for the year 1951.

Vital Statistics.

There was a further fall in the *birth rate* during the year, but the total population showed little change.

The *stillbirth rate* shows a substantial drop, from 29 in 1950 to 19 last year. The *infant mortality rate* on the other hand rose from 38 to 55, the highest rate recorded since 1945. Further reference is made to this subject below. There were no *maternal deaths* in 1951, although there was one death "associated with pregnancy."

Of the infectious diseases *measles* was particularly prevalent in the early part of the year and there was also an unusually high incidence of *whooping cough*. The county experienced a wave of *influenza* early in the year but otherwise there was, fortunately, nothing of note to be recorded as far as infectious diseases are concerned. For the second year in succession no case of *diphtheria* occurred and six years have now elapsed since the last fatal case of this disease.

Infant Mortality.

The excessive wastage of young life in Anglesey through still-birth and infant death has been a cause of concern for many years, as was pointed out by Dr. G. J. Roberts in his Annual Report for 1947. It had been hoped that the expansion of services occasioned by the National Health Service Act, 1946, would be reflected in a commensurate decline in these rates of wastage. It cannot be said, however, that the expected improvements have come about, and I have sought elsewhere in this report to analyse in detail the factors involved. This analysis leads to certain general conclusions. In the first place, the pattern of child-bearing in Anglesey shows an adverse distribution of births by maternal age and parity compared with England and Wales and this in itself is probably responsible for a third of the excess wastage in the county. Secondly, there is evidence strongly suggesting that overcrowding in the homes of our people is responsible for

much of the preventable mortality of infants. Thirdly—and this is a matter primarily of concern to the hospital authorities—there is evidence of an undue mortality from infections of various kinds contracted in hospital. I consider that an indiscriminate resort to institutional midwifery has contributed to this state of affairs. Finally, there is room for improvement with respect to the adequacy of ante-natal care, the encouragement of breast feeding and the care of the unmarried mother and her child.

Tuberculosis.

The mortality from tuberculosis shows a further marked reduction but the number of new cases notified shows no evidence of decline. The reduced mortality can be ascribed to improved methods of treatment but it is too early to say whether these methods effect a cure. Meanwhile, as Dr. J. Glyn Jones points out in the body of the report, we have reached a stage where for every case removed by death, five new cases are notified. There can be no relaxation therefore, in our measures to prevent tuberculosis.

Despite the efforts of the local Hospital Management Committee to minimise its effect, the disastrous fire at Llangefni Sanatorium has meant that fewer beds are available to treat tuberculosis. It is not known what steps, if any, the Regional Hospital Board propose to take to provide more beds for tuberculous cases. In last year's report I discussed the question of a "Papworth for North Wales." It is sad to have to report that nothing further has been heard of this laudable project.

Cancer of the Lung.

Among the causes of death that have in recent years assumed increasing importance one of the foremost is cancer of the lung, a disease to which men aged 50 to 65 are particularly liable. The crude death rate among males has more than doubled in the last decade and the disease is rapidly overtaking respiratory tuberculosis as a cause of death. In Anglesey there were 13 deaths last year compared with 9 in 1950. Respiratory tuberculosis caused 14 deaths in Anglesey in 1951.

A relationship between cancer of the lung and the smoking habit is now well established. It can be stated categorically that heavy smokers are definitely more liable to the disease than are non-smokers. Although recent research has established this connection beyond reasonable doubt, there is much about this disease that still

remains obscure. Smoking, for instance, cannot be the sole cause otherwise why should some heavy smokers live to a ripe old age and, contrariwise, some non-smokers develop the cancer? Why are men more susceptible than women? Is the sex differential to be explained entirely on the basis of different smoking habits? Are all tobaccos equally liable to cause the disease or are some types of leaf more dangerous than others? Is there some element in the treatment meted to the leaf which may have a bearing? These are some of the questions which must be answered before we shall know how to prevent what promises to prove a preventable disease.

It is no secret that the manufacture of tobacco has long been a very remunerative pursuit and great fortunes have been amassed. It is no secret, either, that the big tobacco companies are continuing to show great profit from their operations. In the immediate future some of those profits might well be spent on research into this problem of preventive medicine which is threatening to assume such alarming proportions. Inasmuch as the research would appear to demand access to industrial information, the tobacco companies are best placed to pursue it. Enlightened self-interest would seem to point the same way, and in any case, the time may come when public opinion will demand the removal of the menace, if removable it proves to be.

Housing.

Detailed reference will be found elsewhere in the report to this most pressing of our public health problems. The committee will be interested to learn that the results, recently published, of the one per cent. sample taken at the time of the 1951 Census bears out the evidence from other sources about the need for new houses in Anglesey. We have long been accustomed to think of tuberculosis as a disease that flourishes where housing conditions are bad and there is reason to believe, too, that overcrowding in the home contributes materially to a high infant mortality rate. These are matters capable of definition in statistical terms. But there are other effects of bad housing which, while we may suspect their existence, we cannot measure or express as rates per 1,000. What, for instance, is the relationship between housing circumstances and the mental, or for that matter, the moral health of the community? Can it be that the high rate of illegitimacy in this county is in some way related to what is euphemistically called "moral overcrowding"? What standards of sexual morality can we expect young people to observe who are obliged to live and sleep in a state of indecent propinquity with other young adults of opposite sex not to mention perhaps their own parents? It is difficult to imagine the strain on the mother of trying to rear a young family in a cottage

devoid of all conveniences, structurally unsound and probably not even weather proof. Small wonder that the health visitor reports that the standard of mothercraft is poor. Can it be wondered at if the strain in time proves too much, and if conditions deteriorate further? Have we any right to be surprised if the children grow up "maladjusted" or "educationally retarded" or "delinquent"?

In the nature of things I can offer you no figures but anyone who is acquainted with the living conditions of some of our less fortunate contemporaries must share my conviction that better housing would bring in its train benefits other than those expressible in statistical language.

New Developments.

Among the new developments during 1951 to which I should like to draw your attention were the opening of Llys-y-Gwynt, Holyhead, and Park Mount, Llangefni, Homes for Old People. These establishments have both been warmly complimented on the work they are doing by visitors competent to judge.

During the year also the Health Committee moved to seek Ministerial approval for the addition of fluorides to the County Water Scheme supply, as a measure of prevention of dental caries. This may well prove in time to be a significant departure in public health practice.

Acknowledgments.

Despite forebodings to the contrary, much valuable voluntary work is still being performed in connection with the services dealt with in this report. I would mention particularly the committees of the infant welfare centres and their secretaries, the St. John's Detachment at Holyhead and the British Red Cross Society. I would like, too, to draw your attention to two ladies who have once again rendered valuable service. I refer to Mrs. A. L. Stirratt, who continued to run the Nursing Equipment Depot at Holyhead until family circumstances obliged her to relinquish this work, and Mrs. G. Hughes Jones, who once again has rendered signal service in connection with the voluntary car service.

It is also a pleasure to acknowledge the kindness and co-operation shown by the associated officers of the Council. I am particularly indebted to the Clerk of the County Council for the able assistance he has always been so ready to extend. The County Water Engineer (Mr. W. H. Austin), and the Inspector of Food and Drugs (Mr. H. A.

Thomas) kindly provided information relating to their departments for inclusion in this report. I am indebted to the district medical officers of health, the assistant county medical officers, the nursing and the clerical staff for their loyal co-operation. I welcome, too, the opportunity to thank you, Sir, and the members of the Health Committee, for the interest you have evinced in the work of the department and for the support you have accorded to me at all times.

I am,

Your obedient Servant,

G. WYNNE GRIFFITH,

August, 1952.

County Medical Officer.

Table 1

GENERAL STATISTICS

<i>District</i>	<i>Area in Acres</i>	<i>*Popula- tion</i>	<i>Rateable Value (1.4.51)</i>
Beaumaris Borough	3,135	2,136	12,678 [£]
Amlwch Urban	4,494	2,774	11,875
Holyhead Urban	730	10,460	51,156
Llangefni Urban	2,510	2,226	14,189
Menai Bridge Urban	824	1,954	10,564
	<hr/>	<hr/>	<hr/>
Total Urban Districts	11,693	19,550	100,462
	<hr/>	<hr/>	<hr/>
Aethwy Rural	52,352	10,810	34,034
Twrcelyn Rural	53,865	8,410	27,549
Valley Rural	58,784	12,210	43,930
	<hr/>	<hr/>	<hr/>
Total Rural Districts	165,001	31,430	105,513
	<hr/>	<hr/>	<hr/>
Total Administrative County	176,694	50,980	205,975
	<hr/>	<hr/>	<hr/>

* Registrar General's estimate for mid year 1951.

Product of 1d. rate for County 1951/52 £810

METEOROLOGY

Monthly climatological data relating to R.A.F. Establishment, Valley, and supplied by courtesy of the Director of the Meteorological Office, Air Ministry.

Table 2

	Rainfall		Sunshine		Temperature		Fog
	<i>Mean dly. rainfall in mms.</i>	<i>No. of wet days (1)</i>	<i>Mean dly. hrs. of sunshine</i>	<i>No. of sunny days (2)</i>	<i>Mean max. day temp.</i>	<i>Mean min. night temp. (3)</i>	<i>No. of days when fog was recorded</i>
January	2.6	15	2.07	3	44.7	37.7	2
February	2.9	14	3.27	6	44.5	36.1	2
March	3.6	19	2.76	5	45.3	36.4	4
April	1.3	9	6.65	12	49.5	38.7	2
May	2.1	10	7.77	12	56.5	43.8	1
June	0.6	5	8.14	16	62.9	49.7	2
July	0.9	6	6.58	11	64.1	53.6	5
August	4.6	16	5.25	5	63.1	54.1	0
September	3.6	13	4.02	5	62.3	53.9	3
October	0.9	5	4.52	11	57.6	46.5	2
November	5.2	23	1.99	3	52.5	44.9	2
December	4.6	19	1.58	3	47.8	41.1	0

(1) "Wet day" is a day when 1.0mm. or more of rain was recorded.

(2) "Sunny day" is a day when 60 per cent. of possible hours of sunshine was recorded.

(3) Temperature in degrees Fahrenheit.

Compared with 1950, temperatures generally, and the summer rainfall, were lower.

VITAL STATISTICS

Where possible, the comparable rates for England and Wales are shown. For the current year these are provisional figures issued by the Registrar-General.

A table will be found at Appendix "D" showing the statistics for the individual county districts.

Births

There were 821 *live births* registered during the year, corresponding to a birth rate of 16 per 1,000 population.

The trend of the birth rate over the past 10 years can be seen from the table set out overleaf, which gives the England and Wales data for comparison.

Table 3

BIRTH RATE PER 1,000 POPULATION

	<i>Anglesey</i>	<i>England and Wales</i>
1942	17.3	15.6
1943	17.8	16.2
1944	17.6	17.7
1945	17.7	15.9
1946	18.9	19.2
1947	19.9	20.5
1948	18.7	17.9
1949	17.8	16.7
1950	16.8	15.8
1951	16.1	15.5

Illegitimate live births accounted for 45 out of the total of 821 live births. The illegitimate birth rate is thus 0.88 per 1,000 population. The trend of the illegitimate birth rate over the past 10 years can be seen from the table set out below, which gives for comparison the corresponding rate for England and Wales.

Table 4

ILLEGITIMATE BIRTH RATE PER 1,000 POPULATION

	<i>Anglesey</i>	<i>England and Wales</i>
1942	1.9	0.9
1943	1.8	1.0
1944	2.0	1.3
1945	2.1	1.5
1946	2.3	1.3
1947	1.8	1.1
1948	1.7	1.0
1949	1.0	0.8
1950	1.3	0.8
1951	0.9	Not yet available }

Stillbirths during the year numbered 16, which gives a stillbirth rate of 0.31 per 1,000 population. The corresponding rate for England and Wales was 0.36. To express stillbirths as a rate per 1,000 population is liable to mislead, because if the population is ageing, that fact alone would cause a decline in the rate computed in this way. It is of more interest to know what proportion of developing pregnancies (i.e., pregnancies which advance to the 28th week) have live issue.

Table 5 shows the stillbirth rate per 1,000 total (live and still) births for the past 10 years, with the England and Wales figures for comparison.

Table 5

STILLBIRTHS PER 1,000 BIRTHS (LIVE AND STILL)

	<i>Anglesey</i>	<i>England and Wales</i>
1942	45	33
1943	40	30
1944	39	28
1945	30	28
1946	34	27
1947	33	24
1948	34	23
1949	28	23
1950	29	23
1951	19	23

Infant Mortality

There were 45 deaths of infants under 12 months of age during the year. This gives an infant mortality rate of 54.8 per 1,000 live births. The corresponding rate for England and Wales was 29.6 per 1,000 live births. A review of the infant mortality experience in the county will be found as an appendix to this report (page 63).

The trend of the infant mortality rate over the past 10 years can be seen by reference to Table 6, where England and Wales rates are shown for comparison.

Table 6

	<i>Anglesey</i>	<i>England and Wales</i>
1942	79	51
1943	59	49
1944	59	45
1945	74	46
1946	46	43
1947	43	41
1948	39	34
1949	45	32
1950	38	30
1951	55	30

Neonatal Mortality

It is convenient, when considering the mortality of infancy, to differentiate between deaths in the first month of life (neonatal deaths) and subsequent deaths in the first year (post-natal deaths). The neonatal mortality is closely allied to still birth in-so-far as factors operative during the pregnancy and the confinement are largely responsible for both. The table below sets out the neonatal mortality for the county alongside the figures for England and Wales for the past 10 years.

Table 7

NEONATAL MORTALITY RATE		
<i>(Deaths under 1 month per 1,000 live births)</i>		
	<i>Anglesey</i>	<i>England and Wales</i>
1942	38	27
1943	28	25
1944	27	24
1945	32	25
1946	26	24
1947	25	23
1948	27	20
1949	29	19
1950	19	18
1951	28	19

Maternal Mortality

There were no maternal deaths during the year, but there was one death "associated with pregnancy." Table 8 gives details of maternal mortality for the past 10 years.

Table 8
MATERNAL MORTALITY

	<i>Actual Number</i>	<i>Rate per 1,000 total births (live and still) England Anglesey and Wales</i>	
1942	—	—	2.5
1943	3	3.5	2.3
1944	1	1.1	1.9
1945	1	1.2	1.8
1946	2	2.1	1.4
1947	—	—	1.2
1948	—	—	1.0
1949	1	1.1	1.0
1950	—	—	0.9
1951	—	—	0.8

General Mortality

There were 772 deaths of persons at all ages registered during the year after allowing for transferable deaths (inward and outward). This gives a crude death rate of 15.1 per 1,000 population. The corresponding rate for England and Wales was 12.5. Because the rates, as computed, take no account of differences in the age composition of the population in question (hence the appellation "crude") whereas, as a matter of common experience, mortality is correlated to age, valid comparisons of crude rates are impossible to make.

Tables 9 and 10 show the deaths according to the cause, and classified by age at death and by county district respectively.

There were 74 more deaths in 1951 than in 1950, an increase of just over 10 per cent. As may be seen from Table 9 the following factors contribute to this increase :

- (a) an increase in infant mortality ;
- (b) a slight increase in the male deaths at ages 25—44, the only cause that can be identified being accidental deaths.
- (c) an increase in male deaths at ages 45-64, due to more cancer deaths and more deaths from influenza and pneumonia ;
- (d) a large increase in both sexes at ages 75 and upwards : among the causes which may be identified are :—for both sexes an increase in deaths from influenza and pneumonia ; for males more deaths from diseases of the prostate, for females an increase in deaths from vascular diseases of the central nervous system and coronary disease.

Table 9

CAUSES OF DEATH AT DIFFERENT PERIODS OF LIFE, 1951

Causes.	Males								Females								Total
	0-	1-	5-	15-	25-	45-	65-	75-	0-	1-	5-	15-	25-	45-	65-	75-	
1 Tuberculosis, respiratory	—	—	—	—	1	5	2	1	—	—	—	—	3	2	—	—	14
2 Tuberculosis, other	—	—	—	—	1	—	—	—	—	—	—	2	—	—	—	—	3
3 Syphilitic disease	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	2
4 Diphtheria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5 Whooping Cough	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
6 Cerebro spinal fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7 Acute poliomyelitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8 Measles	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9 Other infective diseases	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	2
10 Cancer of stomach	—	—	—	—	—	9	8	1	—	—	—	—	—	3	2	2	25
11 Cancer of lung	—	—	—	—	—	6	3	—	—	—	—	—	1	1	1	1	13
12 Cancer of breast	—	—	—	—	—	—	—	—	—	—	—	—	—	5	2	3	10
13 Cancer of uterus	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	1	4
14 Cancer of all other sites	—	—	—	—	2	13	12	10	—	—	—	—	1	6	11	8	63
15 Leukaemia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16 Diabetes	—	—	—	—	—	1	—	3	—	—	—	—	—	—	3	2	9

7 Vascular lesions of Nervous system..	—	—	—	1	9	12	31	—	—	—	—	1	12	13	42	121
18 Coronary disease, angina	—	—	—	1	12	16	24	—	—	—	—	—	2	14	8	77
19 Hypertension with heart disease ...	—	—	—	1	1	—	5	—	—	—	—	1	2	6	5	21
20 Other Heart Diseases	—	—	1	—	5	14	23	—	—	—	—	—	7	19	50	119
21 Other circulatory diseases	—	—	—	1	1	1	6	—	—	—	—	—	2	2	8	21
22 Influenza	1	—	—	—	6	3	6	1	—	—	—	—	1	5	15	38
23 Pneumonia	1	—	—	1	3	3	—	3	—	—	—	—	—	3	3	17
24 Bronchitis	1	—	—	—	7	4	8	—	—	—	—	—	3	4	18	45
25 Other diseases of respiratory system.	—	—	1	1	2	—	—	—	—	—	—	—	—	—	—	4
16 Ulcer of stomach and duodenum ...	—	—	—	1	—	2	1	—	—	—	—	—	1	1	—	6
27 Gastritis, enteritis and diarrhoea.....	4	—	—	—	—	3	—	4	1	—	—	—	—	1	—	13
28 Nephritis and nephrosis	—	—	—	—	3	3	3	—	—	1	1	1	1	3	2	17
29 Hyperplasia of prostate	—	—	—	—	—	5	11	—	—	—	—	—	—	—	—	16
30 Pregnancy, childbirth, abortion	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
31 Congenital malformations	3	—	—	—	1	—	—	3	—	—	—	—	—	—	—	7
32 Other defined and ill-defined diseases	13	—	1	1	8	3	7	9	—	—	—	5	3	3	10	77
33 Motor vehicle accidents	—	2	1	1	3	1	—	—	—	—	—	—	—	—	—	8
34 All other accidents	—	1	1	3	2	1	1	1	1	—	—	—	—	—	4	17
35 Suicide	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	2
36 Homicide and operations of war.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
All causes	24	3	3	7	27	89	101	149	21	2	—	3	15	52	94	772

Table 10

CAUSES OF DEATH CLASSIFIED BY COUNTY DISTRICTS, 1951

Causes	<i>Amburb</i>	<i>Beaumaris</i>	<i>Holyhead</i>	<i>Llangefni</i>	<i>Menai Bridge</i>	<i>Actonby</i>	<i>Trecclyn</i>	<i>V. alley</i>	<i>Total</i>
1 Tuberculosis, respiratory ...	—	—	2	1	—	5	2	4	14
2 Tuberculosis, other ...	—	1	—	—	—	1	—	1	3
3 Syphilitic disease	—	—	—	—	—	1	—	1	2
4 Diphtheria	—	—	—	—	—	—	—	—	—
5 Whooping Cough	—	—	—	—	1	—	—	—	1
6 Cerebro spinal fever	—	—	—	—	—	—	—	—	—
7 Acute poliomyelitis	—	—	—	—	—	—	—	—	—
8 Measles	—	—	—	—	—	—	—	—	—
9 Other infective diseases.....	—	—	1	—	—	—	—	1	2
10 Cancer of stomach	—	1	4	—	1	7	7	5	25
11 Cancer of lung	1	1	4	—	1	2	1	3	13
12 Cancer of breast	—	2	2	—	1	2	1	2	10
13 Cancer of uterus	—	—	2	—	—	1	—	1	4
14 Cancer of all other sites.....	2	2	12	3	1	19	8	16	63
15 Leukaemia	—	—	—	—	—	—	—	—	—
16 Diabetes	2	—	3	—	—	4	—	—	9
17 Vascular lesions of nervous system	13	8	22	5	6	16	27	24	121
18 Coronary disease, angina ...	3	6	12	3	4	18	13	18	77
19 Hypertension with heart disease	—	—	7	2	1	2	2	7	21
20 Other heart diseases	7	8	24	7	7	29	18	19	119
21 Other circulatory diseases...	1	1	4	1	—	2	4	8	21
22 Influenza	5	—	—	4	1	9	4	15	38
23 Pneumonia	1	—	3	1	1	2	3	6	17
24 Bronchitis	1	3	15	1	2	14	1	8	45
25 Other diseases of respiratory system	—	—	1	—	—	—	3	—	4
26 Ulcer of stomach and duodenum	—	2	1	—	—	1	—	2	6
27 Gastritis, enteritis and diarrhoea	1	1	3	2	1	2	2	1	13
28 Nephritis and nephrosis ...	—	1	4	—	—	4	6	2	17
29 Hyperplasia of prostate.....	2	—	3	—	1	6	1	3	16
30 Pregnancy, childbirth, abortion	—	—	—	—	—	—	—	—	—
31 Congenital malformations. .	1	—	—	1	1	3	1	—	7
32 Other defined and ill-defined diseases	4	3	19	3	5	15	10	18	77
33 Motor vehicle accidents ...	—	—	—	—	1	2	4	1	8
34 All other accidents.....	1	1	4	—	—	5	3	3	17
35 Suicide	1	—	—	—	—	1	—	—	2
36 Homicide and operations of war	—	—	—	—	—	—	—	—	—
Totals	46	41	152	34	36	173	121	169	772

The main causes of death

A summary of the deaths showing the principal causes is given below.

Table 11

	<i>Number</i>	<i>Per cent. of all deaths</i>
Heart disease	217	28.1
Cancer	115	14.9
Intra cranial vascular lesions.....	121	15.7
Bronchitis and Pneumonia	62	8.0
Tuberculosis	17	2.2
Violence	27	3.5
Congenital Malformations, etc.	7	0.9
All other causes	206	26.7
	<u>772</u>	<u>100.0</u>

The following table shows the relative importance of the principal causes of death in Anglesey over a period of years.

Table 12

<i>Years</i>	<i>Total deaths all causes</i>	<i>Per cent. of total deaths due to</i>				
		<i>Heart disease</i>	<i>Cancer</i>	<i>Bronchitis Pneumonia</i>	<i>Tuber- culosis</i>	<i>Fevers*</i>
1915/19...	4,151	11.2	9.2	13.4	10.5	9.3
1920/24...	3,733	13.6	11.4	9.5	9.7	8.2
1925/29...	3,810	14.2	12.6	10.1	8.7	7.9
1930/34	3,744	21.6	14.1	7.3	8.1	4.6
1935/39...	3,775	26.4	14.8	6.9	5.7	7.6
1940/44...	3,772	26.0	14.0	9.5	5.6	4.0
1945/50...	4,206	30.8	15.9	7.4	4.4	0.8
1951 ...	772	28.1	14.9	8.0	2.2	0.4

* Fevers include diphtheria, measles, whooping-cough, cerebro-spinal fever, scarlet fever, typhoid and enteric fever.

MORBIDITY

The table below sets out the number of fresh claims for sickness benefit received at the local offices of the Ministry of National Insurance.

Table 13

	<i>Holyhead</i>	<i>Llangefni</i>	<i>Total</i>	<i>% of Total</i>
First Quarter	1,396	1,013	2,409	45
Second Quarter	629	389	1,018	19
Third Quarter	534	311	845	15
Fourth Quarter	689	448	1,137	21
Total.....	3,248	2,161	5,409	100

The following table compares the experience in Anglesey with that of England and Wales during 1951. The number of fresh claims per 1,000 persons eligible has been estimated for England and Wales from data kindly supplied by the Chief Medical Officer of the Ministry and for Anglesey from data supplied by the Wales Office of the Ministry of Labour and National Service.

Table 14

NUMBER OF NEW CLAIMS TO SICKNESS BENEFIT PER 1,000 PERSONS
ELIGIBLE TO CLAIM

1951	<i>Anglesey</i>	<i>England and Wales</i>
First Quarter	171	131
Second Quarter	72	63
Third Quarter.....	60	54
Fourth Quarter	81	75

The population estimates on which Anglesey rates were compiled are subject to an unknown degree of error so that undue weight cannot be placed on the differences revealed.

It can be seen, however, that Anglesey shared in the high morbidity rate experienced throughout the country during the first quarter of 1951. This was due to an epidemic of influenza which spread rapidly to most parts of the country in January and February.

As the number of fresh claims to sickness benefit are reported weekly to the Medical Officer of Health, it was possible to follow the course of the epidemic locally. The histogram overleaf shows the combined total of claims filed each week at the Holyhead and Llangefni offices of the Ministry during the period November, 1950, to April, 1951. The corresponding figures for the period November, 1949, to April, 1950, are also plotted for comparison. The epidemic wave, reaching a peak in the fourth week of January, 1951, is clearly demonstrated.

Gynaecological Conditions.

The great majority of cases of gynaecological conditions from this county which require hospital treatment are seen at and admitted to the County Hospital, Bangor. The Consultants in gynaecology have kindly provided the following summary of admissions of Anglesey patients during 1951 :—

Carcinoma :	...	...	...	...	...	...	...	25
Cervix uteri	...	...	...	...	...	10		
Corpus uteri	...	...	...	...	...	6		
Ovaries	...	...	...	...	...	2		
Other sites	...	...	...	...	...	7		
Fibroid uterus	...	...	...	...	...	...	...	20
Ovarian tumours (non-malignant)				...	...	...	...	13
Prolapse, various degrees			...	...	...	...	...	38
Disorders of menstruation			...	...	...	...	...	45
Sterility	...	...	...	...	...	...	...	8
Ectopic pregnancy, all varieties				...	...	...	...	2
Hydatid mole	...	...	...	...	...	...	...	4
Abortion : all types			...	...	...	...	...	48
Breast abscess	...	...	...	...	...	...	...	7
Erosion of cervix, cervicitis, cervical polyp.					...	...	...	17
Other conditions	...	...	...	...	...	...	...	66

It may be possible in due course to obtain information of a similar nature with regard to other forms of medical and surgical treatment at local hospitals. When this is so it should provide a useful picture of the illnesses which afflict the population and are the causes of admission to hospital.

EPIDEMIOLOGY

The notifications of infectious diseases during the year are set out below.

Table 15

NOTIFICATIONS OF INFECTIOUS DISEASES, 1951

Disease	Urban					Rural			
	<i>Amburb</i>	<i>Beaurmaris</i>	<i>Holyhead</i>	<i>Llangefni</i>	<i>Menai Bridge</i>	<i>Aethlwy</i>	<i>Tyrcelyn</i>	<i>Valley</i>	<i>Total</i>
Diphtheria	—	—	—	—	—	—	—	—	—
Scarlet Fever	7	1	1	4	2	4	8	—	27
Dysentery.....	—	—	—	20	3	23	—	4	50
Acute pneumonia	7	1	—	8	5	13	38	9	81
Ac. poliomyelitis	—	—	—	—	—	—	3*	1†	4
Erysipelas	—	—	1	—	—	—	2	—	3
Measles	164	147	47	7	74	340	134	278	1191
Whooping Cough	31	13	63	52	50	138	51	32	430

* Paralytic. † non paralytic.

In table 16 will be found the trend of notifications over the last 10 years.

Table 16

NOTIFICATIONS OF INFECTIOUS DISEASES, 1942/51.

Disease	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951
Diphtheria	30	36	50	75	27	9	4	2	—	—
Scarlet Fever	65	55	148	77	36	27	21	14	65	27
Enteric Fever	—	—	—	—	—	—	—	—	—	—
Paratyphoid	—	—	—	—	—	—	1	—	—	—
Dysentery	1	—	13	—	—	1	2	—	23	50
Pneumonia	35	37	31	31	48	42	43	31	28	81
Cerebro S.F.	3	8	—	1	1	1	1	—	—	—
Ac. Poliomyelitis	—	—	—	1	—	2	1	2	3	4
Puerperal Pyrexia	1	—	1	—	1	1	—	—	—	—
Erysipelas	12	3	3	3	1	2	5	4	4	3
Measles	306	411	16	97	543	291	379	227	175	1191
Whooping Cough	6	22	47	134	33	90	196	44	72	430
Ophth. Neonatorum ...	—	2	1	—	—	—	—	1	—	—

There were no cases of diphtheria, smallpox, enteric fever, puerperal pyrexia, cerebro-spinal fever, or ophthalmia neonatorum notified during the year.

It is gratifying to report that, tuberculosis excepted, only 1 death occurred from a notifiable infectious disease, and there was no outbreak of *food poisoning*.

Scarlet Fever, at 27 cases, compared favourably with 1950. The prevalent type was a mild one, and for the last six years there have been no deaths from this cause.

For the second year in succession no confirmed cases of *diphtheria* occurred, and for five years we have not had a death from this disease. That this happy state of affairs is a result of widespread immunisation cannot be seriously contested.

Dysentery again showed a considerable increase with 50 cases, due to small outbreaks towards the end of the year. The incidence of *pneumonia* and *erysipelas* remained fairly stable. There was a very high prevalence of *measles* during the year, the number of notified cases being the highest since the disease was first made notifiable in 1940. Beaumaris, Amlwch, Aethwy and Valley were the districts most affected. In some villages hardly any susceptible children escaped an attack. The number of cases of *whooping cough* was also the largest in any year since 1940. Four cases of *acute poliomyelitis* were notified.

Mortality from infectious diseases during the year is shown in Table 17, together with the trend of mortality over the past 10 years.

Table 17

MORTALITY FROM INFECTIOUS DISEASES, 1942/51
(including certain diseases which are not notifiable)

Disease	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951
Diphtheria	4	1	2	5	3	—	—	—	—	—
Scarlet Fever	—	1	1	2	—	—	—	—	—	—
Typhoid & Paratyphoid.	—	—	—	—	—	—	*1	—	—	—
Cerebro S.F.	1	5	1	—	—	2	1	—	†1	—
Ac. inf. enceph.	—	2	—	1	1	1	1	—	—	—
Ac. polio myel. and polio enceph.	1	—	—	—	—	—	1	—	1	—
Enceph. Leth.	—	—	—	—	—	—	—	—	—	—
Measles	—	—	—	—	1	—	3	—	1	—
Whooping Cough	—	—	3	3	—	1	3	1	—	1
Influenza	9	37	14	14	17	9	3	9	5	38
Diarrhoea under 2 years. .	8	6	4	7	1	5	1	—	2	8
Puerperal Sepsis	—	1	1	1	—	—	—	—	—	—

* Inward Transferable Death.

† Not notified.

Note.—The Registrar General has also allocated two deaths in 1951 to "Other Infectious and Parasitic Diseases."

Venereal Disease

Details of the work done at the C. & A. clinic for Anglesey patients were as follows :

Table 18

	<i>Syphilis</i>		<i>Gonorrhoea</i>		<i>Non-Venereal conditions</i>	
	M.	F.	M.	F.	M.	F.
New Cases			2	1	23	10
Early.....	2	3				
Late	1	10				
Congenital	1	3				
Old Cases and transferred cases	42	45	3	1	9	19
Defaulters :						
From treatment	9	11	1	1		
From observation	—	—	—	—		
Total remaining	26	44	2	1	9	4

The number of new adult cases of venereal disease showed a further slight decline in 1951, and there was again noted a reduction in the number of cases of congenital syphilis. The number of persons defaulting was almost the same as last year. It should be stressed, however, that this number includes those who have completed the course of treatment but have not remained under observation long enough to enable the Specialist to decide if they are cured.

Only two of the 20 cases of syphilis shown in the table as having defaulted, failed to complete the course of treatment.

VACCINATION AND IMMUNISATION

Smallpox Vaccination

During the year vaccination records were received as follows :

Table 19

VACCINATION RECORDS RECEIVED IN 1951

	<i>Primary</i>	<i>Re- vaccinations</i>	<i>Total</i>
Amlwch	23	9	32
Beaumaris	18	7	25
Holyhead	55	7	62
Llangefni	45	17	62
Menai Bridge	21	8	29
Aethwy	119	25	144
Twrcelyn	91	15	106
Valley	110	19	129
	<hr/> 482	<hr/> 107	<hr/> 589
	<hr/> <hr/>	<hr/> <hr/>	<hr/> <hr/>

The number of primary vaccinations is equivalent to 59 per cent. of the number of live births notified.

Diphtheria Immunisation.

758 were immunised during 1951 as follows :

Under 1 year	38
From 1-5 years	578
From 5-15 years	142

In addition, 1,535 children received a "boosting" dose.

The position with regard to the state of the protection of the child population was as follows :

Table 20

DIPHTHERIA IMMUNISATION IN RELATION TO CHILD POPULATION

	0-4 Years			5-15 Years			Total under 15		
	Pop'n	No.	Imm. %	Pop'n	No.	Imm. %	Pop'n	No.	Imm. %
Amlwch	211	125	59.2	432	425	98.4	643	550	85.6
Beaumaris.....	194	117	60.3	269	238	88.5	463	355	76.7
Holyhead	920	351	38.2	1444	1016	70.4	2364	1367	57.8
Llangefni	215	183	85.2	335	255	76.1	550	438	79.6
Menai Bridge	143	99	69.2	231	240	103.9	374	339	90.6
Aethwy	851	457	53.7	1608	1255	78.0	2459	1712	69.6
Twrcelyn	642	416	64.8	1258	1170	93.0	1900	1586	83.6
Valley	950	366	38.6	1707	1247	73.1	2657	1613	60.7
Totals	4126	2114	51.1	7284	5846	80.3	11410	7960	69.8

The number of children immunised during the year shows an increase on the figures for 1950, and the overall state of protection of the child population is slightly higher than last year.

B.C.G. Vaccination.

This is dealt with on page 26.

TUBERCULOSIS

There were 87 (67 respiratory and 20 non-respiratory) new notifications received during the year, and 17 deaths due to tuberculosis were registered. The data for notifications and deaths over the past 10 years has been as follows :

Table 21

	Notifications.			Deaths.		
	Resp.	Non-resp.	Total	Resp.	Non-resp.	Total
1942	66	10	76	37	10	47
1943	50	16	66	35	9	44
1944	86	9	95	19	4	23
1945	55	8	63	24	4	28
1946	54	11	65	37	6	43
1947	63	7	70	32	6	38
1948	68	8	76	31	2	33
1949	55	17	72	23	2	25
1950	55	13	68	14	5	19
1951	67	20	87	14	3	17

In addition 1 respiratory case came to my knowledge during the year through the death returns, and 4 respiratory cases were transferred from other areas.

The following is the report of Dr. J. Glyn Jones, Area Chest Physician :

“A further slight decline in the death rate during 1951 confirms that the satisfactory figures of the last few years were not due to temporary or fortuitous factors, but that the gains made as a result of recent advances in therapeutic and preventive measures are at least, being held. That there is no reason for complacency, however, is shown by the rise in notifications to the highest figure for some years. This, no doubt, is partly the result of the increase in diagnostic facilities and the improved co-operation of the public. Nevertheless, it is a fact that for every case that died in 1951, five new cases were discovered. Fortunately, we may be sure that the large majority of these patients will get better, but some will not and all are potential sources of infection and all will have lost considerable time off work or school before they are better. When we remember that every one of these 87 cases contracted their infection, either from infected milk or from another human being, we may well ask ourselves whether all is yet well in our preventive action against tuberculosis.

During the year we were handicapped for some months by the result of the disastrous fire at Llangefni Sanatorium and even after its partial re-opening, there was a slight net loss of beds. I think that pressure should be brought to bear on the responsible body to have this institution fully re-established as soon as possible.

Another interesting and important development is the detection on an increasing scale of pulmonary tuberculosis among the older age groups, particularly in males. Many of these patients are beyond the scope of any effective treatment and to admit them to hospital means that younger patients, for whom a lot might be done, are denied the opportunity of receiving curative treatment at an early stage of their disease; yet to leave older men at home, often in difficult domestic circumstances and under unsatisfactory housing conditions, is to court disaster by exposing children and young people to infection. I feel that there is a definite need of special accommodation for this type of case, if we are to tackle the tuberculosis problem realistically. There is a tendency among hospital administrators to discourage the admission of this type of case by saying that the bed is being used for segregation and not for treatment and that, prevention being a matter for the County Council, it is for that authority to find the beds. It would be unfortunate if the provision of this type of accommodation

were held up because of disagreement between two bodies, each expending public money for the same ultimate purpose, as to where their individual responsibilities ended.

I would also warn all those interested in tuberculosis work against the enthusiasm now being stirred in some quarters for domiciliary treatment. It is, of course, most desirable that, while a shortage of beds exists, one should do everything possible to institute home treatment for those awaiting admission. We are already doing a lot on these lines, but this must not be taken to mean that home care is a satisfactory substitute for sanatorium treatment. Attempts are being made to reduce the hospital waiting list on paper by asserting that many of the patients could be treated at home. We shall then be told that our repeated requests for more beds are unreasonable. This attitude completely ignores the infectivity of tuberculosis in the stage at which it is usually first encountered and though, by energetic home treatment the disease may well be brought under control, who knows how many new cases have been infected in the process !

It is still my contention that the provision of more beds remains the most urgent necessity in the fight against tuberculosis. The energetic steps taken in recent years are now bearing fruit, the battle is proceeding favourably. Let us not, however, relax but rather redouble our efforts until final victory has been achieved."

There are only two comments I would make on this report. Firstly, that the question of providing hostel accommodation for chronic sputum positive cases is being actively considered by the Health Committee. Secondly, that domiciliary treatment can be of very limited application in an area where housing conditions generally are poor. The need here is still for more beds to isolate and educate the patient as well as to treat his disease.

Care and After Care.

Tuberculous patients in the community were visited as usual by the Health Visitors after an initial visit by the Superintendent Nursing Officer. Table 22 gives details of the number of cases in each area and of the number of visits paid.

Shelters provided by the Committee were in use in 2 cases during 1951. Supplies of milk and extra nourishment were given free of charge to 19 cases during the year.

Table 22

<i>Area.</i>	<i>No. of Visits paid</i>	<i>No. of cases on register at 31.12.51</i>
Amlwch	126	34
Beaumaris	211	49
Bodorgan.....	143	30
Holyhead	379	118
Llangefni	142	42
Llanfechell	196	43
Menai Bridge.....	226	53
Totals	1,423	369

B.C.G. Vaccination.

A total of 158 child contacts were tested with a view to vaccination. Twelve refused to complete the tests and eventually 101 were vaccinated. In addition, 6 new-born babies were vaccinated soon after birth. The total number of vaccinations performed under this scheme up to the end of the year is thus 203. Details of the work done in 1951 will be found in table 23.

Miniature Mass Radiography.

During the year a Mobile Mass Radiography Unit of the Welsh Regional Hospital Board paid two visits to the county. The first was a visit paid at the request of the management to a certain industrial concern and 872 persons were examined.

The second visit was concerned with both the general population and the older school children. Six centres of population (Beaumaris, Amlwch, Holyhead, Llangefni, Menai Bridge and Aberffraw) were visited, as well as an industrial concern and two residential schools. The unit stayed at the different centres for periods ranging from one to four days. The total number of adults examined in the course of the second visit was 2,619, consisting of 993 males and 1,626 females. Those attending school, whether day or residential school, are not included in these figures although, of course, a substantial number of them would be over school-leaving age. The results of the survey of the school population will be found in my Annual Report to the Education Committee. This report, therefore, is concerned with those

Table 23

B.C.G. VACCINATIONS, 1951

Age Group	Patch Test		Mantoux 1:1000		Mantoux 1:100		Vaccinated		Refusals
	Total	+ ve.	— ve.	Total	+ ve.	— ve.	Total	+ ve	
Up to 5 years	69	4	65	64	5	59	58	3	61*
5—9 years	49	6	43	42	6	36	33	1	32
10 and over.....	40	6	34	33	13	20	15	1	14
Totals	158	16	142	139	24	115	106	5	107
									12

* Includes 6 new-born babies vaccinated without prior testing.

over school age and not attending school and in presenting the results of the survey I have combined the figures relating to the unit's two visits.

Taking these combined results there were 1,788 males and 1,744 females examined by the unit. Table 24 gives the distribution between the various centres together with an estimate, which must be regarded as approximate, of the percentage response. (This figure is the number examined expressed as a percentage of the estimated population over school age who live within a radius of 2 miles of the centre concerned). I estimate that approximately 9 per cent. of the adult population of the whole county were examined in the course of these two visits. This compares with the estimated 3 or 4 per cent. in the survey in 1950. (Details of that survey will be found in the Annual Report for that year).

Table 24

<i>Centre</i>	<i>Number examined</i>			<i>Per cent. response (approx.)</i>
	<i>Male</i>	<i>Female</i>	<i>Total</i>	
Beaumaris	858	358	1,216	62
Amlwch	121	290	411	18
Holyhead	351	566	917	10
Llangefni	147	246	393	17
Menai Bridge.....	240	220	460	18
Aberffraw.....	71	64	135	18
Total.....	1,788	1,744	3,532	19

The combined results of the survey were as follows :—

Number found to present abnormal X-ray appearances.	121 or 3.42 per cent. of total.
Number found to suffer from definite pulmonary tuberculosis.	NIL.
Number found to require observation for pulmonary tuberculosis.	45 or 1.27 per cent. of total examined.
Number found to present other chest abnormalities.	76 or 2.15 per cent. of total examined.

The result of the mass radiography examination in any given case is a confidential matter and a report is sent to the patient's own doctor only with the patient's consent. The great majority of the cases

considered to require observation for pulmonary tuberculosis do, however, seek advice voluntarily and if as a result the suspicion is confirmed the case will eventually be notified in the usual way. Unless the patient discloses the fact, I have no means of knowing with certainty whether a newly notified case of tuberculosis was originally brought to light through the medium of mass radiography. To date, a total of 6 cases of tuberculosis have been notified where there are good grounds for believing that they were initially discovered as the result of the unit's two visits. It should be stressed that mass radiography is not concerned only with tuberculosis. It is usually the case that other abnormal chest conditions are discovered much more frequently than are cases of pulmonary tuberculosis, and the recent survey provided once more an instance of this. The existence of many of these abnormalities is already known to the patient, *e.g.*, bony deformities, others are newly discovered. In all cases, with the patient's consent, a report is sent to the family doctor so that any treatment needed may be instituted.

As has been indicated already, the response of the general public to the unit's visits was much greater than in 1950 and there are several reasons for this. In the first place, the unit concentrated their attention on the more populous areas. Secondly, the publicity arrangements were more effective and the efforts of the unit's publicity officer contributed materially in this respect. Thirdly, special visits were paid to industrial premises and the high percentage response at Beaumaris is to a large extent a reflection of this factor. A considerable number of those examined at Beaumaris do not live in the borough nor indeed, many of them, in the county. Fourthly, technical improvements in mass radiography have resulted in the examination involving much less inconvenience to the individual than was formerly the case. Finally, I believe the figures indicate that the general public are becoming familiar with the idea of submitting themselves to examination. The percentage response in Aberffraw, for example, was double that obtained in Bodedern and Llanerchymedd in 1950. The unit's work is, of course, one of the facilities provided by the National Health Service. Have the public decided that, as they pay for the service (through taxes and insurance contributions), they might as well use it?

Whatever the reason, I consider that the increased response on this occasion should encourage the unit to continue with these surveys. There is, of course, plenty of room for improvement, but it will only be by conducting regular surveys that we shall reach the stage when routine annual radiographic examination is generally accepted as a matter of course.

MIDWIFERY AND MATERNITY SERVICES

Births

The number of births *notified* during the year classified by place of occurrence was as follows :

Table 25

	<i>Live Births</i>	<i>Still Births</i>
At Home	135	8
County Hospital	353	8
Gors Maternity Home	293	1
Private Nursing Homes.....	13	—
	<hr/> 794	<hr/> 17
	<hr/>	<hr/>

It will be seen that 82 per cent. of all births took place in institutions. This compares with a figure of 72 per cent. for 1950. Of the domiciliary confinements, 56 per cent. were "midwifery cases" according to the definition of the Central Midwives Board. This compares with 68 per cent. in 1950.

Not only therefore has the number of cases which the midwife attends "on the district" fallen markedly—from 533 in 1947 to 143 in 1951—but the proportion of those remaining for which she assumes full responsibility has also declined.

No applications were received during the year for the Committee to accept financial responsibility for the ante-natal care of unmarried mothers.

Analgesia in Domiciliary Midwifery

Fifteen out of the 18 District Nurse/Midwives employed by the Council hold the certificate of the Central Midwives Board authorising them to administer gas and air analgesia in midwifery cases, and the necessary apparatus is available to them all. Seven of these midwives qualified during the year.

The number of domiciliary cases who received gas and air analgesia during the year was 45 or 27 per cent. of all cases confined at home, as compared with 25 per cent. in 1950, and 15 per cent. in 1949. In addition, pethidine was administered in 25 cases. Some form of analgesia was thus administered by the midwives in 70 cases or 43 per cent. of all domiciliary confinements.

Domiciliary Ante-Natal Care.

The ante-natal work undertaken by the midwives is shown in the next table.

Table 26

<i>District</i>	<i>No. of cases Confined</i>	<i>No. of visits paid</i>	<i>Total No. of Still Births Regd.</i>	<i>Total No. of Infant Deaths Regd.</i>
Amlwch	30	245	—	5
Beaumaris	8	83	2	3
Bodorgan	10	105	2	3
Gwalchmai	36	311	1	4
Holyhead	33	201	1	15
Llanerchymedd	18	99	1	1
Llanfechell	31	191	2	2
Llangefni	79	454	1	4
Llanddona	3	16	1	1
Marianglas	18	146	1	1
Menai Bridge	6	51	2	3
Newborough	22	107	2	3
Total.....	294	2009	16	45

Medical Aid

During the year 8 cases occurred where midwives called in medical aid for domiciliary cases, and this Authority was responsible for the payment of the doctor. This compares with 11 similar cases in 1950.

Ante-Natal Clinics

The table below indicates the work done at the county's Ante-Natal Clinics during the year.

Table 27

<i>Number of Cases.</i>				
	<i>Ante-natal</i>	<i>Post-natal</i>	<i>Gynaeco- logical</i>	<i>Attendances</i>
Amlwch	82	31	17	319
Holyhead	260	78	104	1,217
Llangefni	176	73	6	538
Menai Bridge	50	24	1	143
Total.....	568	206	128	2,217

A certain number of Anglesey cases are also seen at the Ante-natal Clinics conducted at the County Hospital, Bangor, and at the Gors Maternity Home, Holyhead, but details of these cases are not available. Not all the ante-natal cases seen at the clinics in 1951 were, of course, confined in that year, but the number of cases seen represents 68 per cent. of the total births for 1951. Artificial though this figure be, it gives some indication of the "cover" provided by these clinics. The service is much appreciated by practitioners even where, as is often the case, they intend to conduct the confinements themselves. It is recognised that the ante-natal clinic can contribute substantially to the achievement of trouble-free midwifery.

Maternal Mortality

There was no maternal death during the year.

CHILD WELFARE

Infant Mortality

The infant mortality rate for 1951 was 54.8 per 1,000 live births as compared with 38.0 in 1950. The causes of infant deaths are shown in the following table:

Table 28
CAUSES OF INFANT DEATHS, 1951

Cause.	Age at Death					Total
	Under 1 day	1-7 days	1-4 weeks	1-3 mths.	3-12 mths.	
Whooping cough	—	—	—	1	—	1
Influenza	—	—	—	—	2	2
Pneumonia	—	—	1	—	3	4
Bronchitis	—	—	—	—	1	1
Gastro Enteritis	—	—	5	3	—	8
Cong. malformations	—	—	4	2	—	6
Prematurity	4	1	—	2	—	7
Other Causes	5	1	2	4	3	15
Accidental (asphyxia)	—	—	—	1	—	1
Total.....	9	2	12	13	9	45

Further reference is made to this subject in Appendix E (page 63).

Child Mortality

There were 8 deaths in the age groups 1 year to 15 years, and the causes were :

Gastro enteritis	1
Other diseases	1
Motor vehicle accidents	3
All other accidents	3
	—
	8
	==

The care of Premature Infants

- (a) Number of premature babies notified during the year 1951 who were born :
- (i) At home 4
- (ii) In private nursing homes —
- (b) Number of those born at home who were nursed entirely at home 4
- (c) Number of those born at home and nursed entirely at home :
- (i) Who died during first 24 hours..... —
- (ii) Who survived at the end of one month..... 3

Health Visiting

Details of the health visiting of infants and other pre-school children are given in the table set out below :

Table 29

<i>District</i>	<i>Births notified</i>	<i>First visits</i>		<i>Other visits to babies of</i>		
		<i>0-1 yr.</i>	<i>1-5 yrs.</i>	<i>0-1 yr.</i>	<i>1-2 yrs.</i>	<i>2-5 yrs.</i>
Amlwch	82	79	—	901	344	613
Beaumaris	115	107	—	651	539	555
Bodorgan	96	97	1	540	578	736
Holyhead	217	211	7	797	703	1,265
Llanfechell	105	104	—	932	789	1,484
Llangefni	64	56	1	1,020	330	464
Menai Bridge	115	121	2	799	456	919
Total.....	794	775	11	5,640	3,739	6,036

The Health Visitors also paid 2,985 visits to other cases during the year.

Infant Welfare Centres

No new centre was opened during the year, but the reorganisation embarked upon by the Committee in 1950 was virtually completed. During 1951 all clinics, with one exception, were staffed by whole-time medical officers.

One thousand and seventy-nine children were on the rolls during the year, and the total attendances numbered 6,282, a decrease of approximately 600 compared with 1950.

Details of the work done is shown below.

Table 30

INFANT WELFARE CENTRES.

(1) No. of centres provided at end of year.....	15
(2) No. of sessions held per month at centres	31
(3) No. of children who attended centres during the year	1,079
(4) No. of children who first attended the centres during the year and who on the date of their first attendance were :	
Under 1 year	471
Over 1 year	94
(5) No. of children in attendance at the end of the year who were then :	
Under 1 year	378
Over 1 year	691
(6) Total number of attendances made by children included in (3) during the year :	
Under 1 year	4,108
Over 1 year	2,174

Dental care of Young Children

(Under the age of 5 years).

Arrangements were made during the year to provide dental attention to children under school age, utilising the services of the Authority's dental officers. When one of the dental officers is due to visit a school, the Health Visitor is informed and she in turn instructs the parents of any young children needing dental attention to bring them to see the dental officer at the school. Table 31 gives details of the work done.

Table 31

Number inspected	95
Number found to need treatment.....	68
Number treated	61
Number rendered dentally fit	59
Forms of dental treatment provided :	
Number of teeth extracted	75
Number of teeth filled	43
Number of silver nitrate treatments	2

No expectant or nursing mother received treatment during the year through the Local Authority's dental service.

Reporting on this work, one of the dental officers (Dr. Catherine Rolant Thomas) says :

"In my area, the children under school age who were inspected and treated during 1951 ranged in age from 15 months to 4+ years, and treatment included extraction and filling of temporary teeth and the application of silver nitrate preparations to preserve teeth unsuitable for filling.

"Much time and patience are needed for successful treatment of children in this very young age group, but the value of the work cannot be assessed too highly. It is the foundation of a comprehensive dental service and builds up a group of children accustomed to dental treatment from an early age, whose parents have taken an interest in their children's teeth from the child's infancy onwards."

HOME NURSING

Table 32 shows the work done during the year by the home nurses.

Table 32

	<i>General Cases</i>	<i>Visits</i>
Amlwch	224	2,408
Beaumaris	149	2,629
Bodorgan	79	1,604
Gwalchmai	93	1,440
Holyhead	215	5,111
Llanerchymedd	186	1,726
Llanfechell	218	1,744
Llangefni	266	3,135
Llanddona	119	1,869
Marianglas	145	2,137
Menai Bridge	107	2,102
Newborough	153	1,549
Total.....	<u>1,954</u>	<u>27,454</u>

Details of the location, etc., of the district nurse/midwives are given in the appendix.

The qualifications of the Nursing Staff are as follows :

S.R.N., S.C.M., Q.N., H.V. CERT.	3
S.R.N., S.C.M., H.V. CERT.	4
S.R.N., S.C.M., Q.N.	3
S.R.N., S.C.M.	3
S.C.M., S.E.A.N.	12
S.C.M., S.R.F.N.	1
S.C.M.	1

Loan of Sick Room Equipment

In October, 1949, the County Council purchased from the Order of St. John of Jerusalem the medical equipment which was previously

loaned by them from their Holyhead Medical Comforts Depot. The equipment consists of such articles as air rings, bed cradles, bed pans, bed rests, crutches, feeding cups, invalid chairs, rubber sheeting dunlopillo mattresses, sputum mugs, urinals, etc.

The district nurses hold a small supply of the inexpensive articles for use by them on their districts.

Normally a deposit is required when an article is borrowed, such deposit being refunded on return of the article to the store. In addition a small weekly hire charge is made for the loan of the more expensive type of articles, e.g., invalid chairs, Dunlopillo mattresses, etc. If a person states that he is unable to pay a deposit or hire charge, an assessment of means is made and, if necessary, the equipment is issued free.

During the year 158 items of medical equipment were issued on loan, compared with 167 items in 1950.

Mrs. A. L. Stirrat was obliged to give up the work of this depot towards the end of the year. I wish to record my great appreciation of the very able manner in which she has carried on this work.

DOMESTIC HELP SERVICE

During 1951 the "Home Help" service was increasingly used, a total of 154 cases being assisted compared with 98 in 1950 and 43 cases in 1949.

The type of case being assisted is shown below :—

Maternity cases	19
Tuberculosis	9
Others	126

The great majority of cases being assisted are aged and infirm persons living in their own homes. The average number of hours worked in each household was 373.5, which is equivalent to nearly 9 weeks whole-time assistance per case.

MENTAL HEALTH

Administration.

The mental health services are administered by the Health Committee through the Nursing Services Sub-Committee, which meets quarterly. The Medical Officer of Health is the executive officer in charge of the service.

Staff.

The Deputy Clerk to the Council, and the Council's Assistant Solicitor are authorised officers for the purpose of presenting petitions under the Mental Deficiency Acts, 1913-1938.

There were three authorised officers under the Lunacy Acts who were also district welfare officers and Registrars of Births and Deaths. Certain staff changes have occurred recently, and the list in Appendix "B" gives details of the duly authorised officers at the time of going to press.

Six general practitioners in the county are approved for certification under the Mental Treatment Act, 1930.

The Council does not employ any trained social workers ; the 7 health visitors, under the supervision of the Superintendent Nursing Officer, visit periodically all persons in the community known to be mental defectives.

Co-ordination.

Close co-ordination exists with hospital and institution authorities. Enquiries are made and reports submitted as required and supervision of patients on licence is undertaken.

There were 11 cases awaiting admission to an institution at the end of the year. Several of these were regarded as urgently in need of removal and had been on the waiting list for many months. All vacancies in Wales are controlled by the Welsh Regional Hospital Board, and close touch is maintained with the Board's officers concerning these cases.

There is not sufficient demand to make it practicable to establish an occupation centre in the area.

The following statistics show the work done under the Mental Deficiency Acts 1913-1938 during the year :

MENTAL DEFICIENCY ACTS, 1913 TO 1938

	During 1951				Total as at 1st January, 1952.			
	Under age 16		Aged 16 and over		Under age 16		Aged 16 and over	
	M.	F.	M.	F.	M.	F.	M.	F.
<i>I. Particulars of cases reported during 1951.</i>								
(a) Cases reported by Local Education Authorities (Sect. 57 Education Act, 1944).								
(i) Under Sect. 57(3).....	2	1	—	—	—	—	—	—
(ii) Under Sect. 57(5) :—								
On leaving special schools.....	—	—	—	—	—	—	—	—
On leaving ordinary schools ...	2	1	1	—	—	—	—	—
(b) Cases referred by the police or by the Courts under Sect. 8(1) (a) (or as a result of other action by the Courts).....	—	—	1	—	—	—	—	—
(c) Other defectives reported during 1951 :—								
(i) Found "subject to be dealt with"...	—	—	1	2	—	—	—	—
(ii) Not at present "subject to be dealt with" ...	2	3	3	—	—	—	—	—
Total No. of cases reported during year	6	5	6	2	—	—	—	—
<i>II. Disposal of Cases.</i>								
(a) Those found "subject to be dealt with" :—								
(i) Placed under statutory supervision	3	2	3	1	5	6	6	4
(ii) Placed under Guardianship	1	—	—	—	1	1	—	—
(iii) Taken to "places of safety"	—	—	—	—	—	—	—	—
(iv) Admitted to Institutions	—	—	—	—	3	2	14	13
(v) Died or removed from area.....	—	—	—	—	—	—	—	—
(vi) Action not yet taken.....	—	—	—	1	—	—	3	4
(b) Those not at present "subject to be dealt with" :—								
(i) Placed under vol. supervision.....	2	3	3	—	2	4	32	29
(ii) Later found not to be defective ...	—	—	—	—	—	—	—	—
(iii) Died or removed from area.....	—	—	—	—	—	—	—	—
(iv) Action unnecessary	—	—	—	—	—	—	—	—
(v) Action not yet taken.....	—	—	—	—	—	—	—	—
Total of Item 2.....	6	5	6	2	11	13	55	50

III. (a) *Institutional Treatment—Waiting List.*

On the 31st December, 1951, 11 cases were awaiting institutional treatment. One male "cot and chair" case and one ambulant low-grade female were in need of urgent admission. No case was awaiting admission only because of poor environment.

(b) *Training.*

Three males and three females were considered suitable for industrial centre training and two females for home training. At the end of the year, however, no case was receiving training.

IV. One male and one female died and one male left the area during the year.

V. No defective under supervision or guardianship gave birth to a child while unmarried and no such defective married during the year.

Mental Illness

The table below shows the admissions to and the discharges from the North Wales Hospital for Nervous and Mental Diseases, Denbigh, of Anglesey patients during the year :

Table 33

ADMISSIONS, DISCHARGES AND DEATHS DURING THE YEAR 1951

	<i>Admissions</i>		<i>Discharges</i>		<i>Deaths</i>	
	M.	F.	M.	F.	M.	F.
Voluntary.....	25	22	23	18	—	—
Temporary	—	—	—	—	—	—
Certified	5	3	6	4	3	2
Total.....	30	25	29	22	3	2

It will again be noted that the great majority of patients are admitted as "voluntary" patients.

In last year's report I drew the committee's attention to a field of service which at present is not receiving the attention it merits—namely, the after-care of mental illness. Fifty-one mental cases were discharged to their homes in Anglesey during 1951 and few of these unfortunate people could expect to receive adequate after-care.

The first essential in any after-care scheme is trained and properly qualified staff, *i.e.*, psychiatric social workers, and in this area the only available personnel are employed by the Denbigh Hospital authorities. Despite the difficulties arising from an inadequate establishment and the distances involved the hospital staff have sought to do as much home visiting as was possible in the circumstances. From information supplied by the hospital it appears that a total of 40 visits were paid during the year to patients resident in Anglesey. This number includes a small proportion of interviews at the hospital or at clinics. This, of course, is quite inadequate as the hospital authorities themselves are the first to admit. Indeed, the Hospital Management Committee took the initiative during the year to call a number of meetings to discuss ways of improving the service and the local health authorities concerned have now been approached to make a contribution to the cost of an expanded service. The question remains to be settled whether an increase in the staff at Denbigh is the best way of providing an improved service in a county such as this which is situated on the periphery of the area covered by this hospital.

AMBULANCE SERVICE

The demand for ambulance transport continues to increase. Compared with 1950 an additional 1,596 patients were carried in 1951, an increase of 20 per cent. on the previous year's figure. A total of 9,362 patients were carried during the year and the journeys amounted to 213,036 miles in the aggregate.

Although the demand for the service as measured by the number of patients carried, increased during the year, there are two encouraging features in the statistics. In the first place the rate of increase in the demand shows signs of abating. Whereas in 1950 the number of patients carried was 65 per cent. above the figure for 1949, in 1951 the increase was 20 per cent. on the previous year's total. Can it be that the ceiling is in sight? In the second place, although the number of patients carried showed an increase of 20 per cent., the number of journeys increased by only 4 per cent. compared with 1950. Whereas in 1950 the movement of 100 patients required 74 journeys, in 1951 the same number of patients were moved in 64 journeys. Improved administration of the service has thus resulted in a 13 per cent. economy in transport.

Ambulances were stationed at Amlwch, Beaumaris, Holyhead and Llangefni. Difficulties in negotiating a lease with the Railway Executive prevented work being done on the Railway Stables, Holyhead, during the year. It is anticipated that these developments will be put in hand during 1952.

A total of seven ambulances was in commission during the year. Some of these vehicles are nearing the end of their useful life as ambulances and plans were made to replace two of them in 1952.

The sitting car service was organised throughout the year on the same lines as hitherto, and the authority are greatly indebted to the County Organiser W.V.S. (Mrs. G. Hughes-Jones, M.B.E.), for the highly efficient way in which this work was done. The voluntary drivers carried out their duties in a thoroughly satisfactory manner and responded to all calls made upon them. A total of 32 drivers were available at the end of December.

At the end of the year the whole time staff consisted of an administrative assistant (now designated Deputy Ambulance Officer), one duty room attendant and 7 drivers. No whole time attendants are employed, but members of the Holyhead St. John Ambulance Brigade fulfil these duties when required. I should like once again to express my appreciation of the able way in which members of this contingent carried out their duties. It would be a considerable asset if a similar body of volunteers were available at other ambulance stations. The Council's district nurse/midwives assist by accompanying maternity and other emergency cases.

Statistics relating to the service will be found in Table 34.

AMBULANCE SERVICE, 1951.

The following table gives details of the work carried out by the service during the year :—

	AMBULANCES			SITTING CARS			TAXIS		
	Cases	Journeys	Mileage	Cases	Journeys	Mileage	Cases	Journeys	Mileage
First Quarter	1,502	924	28,495	656	556	22,102	2	2	270
Second Quarter.....	1,875	975	31,594	676	561	23,963	1	1	133
Third Quarter	1,606	876	25,461	746	615	25,002	1	1	90
Fourth Quarter	1,560	866	25,134	732	604	26,148	5	5	660
	6,543	3,641	110,684	2,810	2,336	97,215	9	9	1,153
Ambulances Sitting Cars									
Average mileage per journey.....						30.40			41.61
Do. per patient carried						16.91			34.60

WELFARE SERVICES

The Council's responsibilities under Part III of the National Assistance Act, 1948, stand referred to the Health Committee, who appointed a Welfare Sub-Committee to deal with these functions. The duties referred to are :

- (a) the provision of accommodation :
 - (i) for persons in need of care and attention because of age, infirmity, etc. ;
 - (ii) temporarily and, in certain circumstances, for persons in urgent need thereof.
- (b) the provision of welfare services for handicapped persons. At the present time the only categories of such persons for whom the provision is obligatory are the blind and the partially sighted.

Details of the work done for the blind will be found on pages 45-46. The Council make a financial contribution to the North Wales Society for the Deaf and Dumb.

The Provision of Accommodation.

Accommodation under Part III of the Act was provided throughout the year at Valley Hospital which is administered by the Caernarvonshire and Anglesey Hospital Management Committee, but the County Council as minor user, reserve a total of 32 beds. In addition, two homes for the aged were opened during the year, Llys-y-Gwynt, Holyhead, in January, and Park Mount, Llangefni, in October. These homes provide accommodation for 20 and 28 respectively, aged and infirm persons.

Details of the use made of these three places are shown below :—

Valley.

Resident at 1.1.51	33
Admitted.....	43
Discharged	51
Died.....	1
Resident at 31.12.51	24

Llys-y-Gwynt.

Admitted.....	28
Discharged	10
Died.....	Nil
Resident at 31.12.51	18

Park Mount.

Admitted.....	7
Discharged	Nil
Died.....	Nil
Resident at 31.12.51	7

The Council exercised their powers under the Act to maintain during 1951 a total of four aged persons in accommodation provided by voluntary organisations outside the county.

Voluntary Services.

During the year the Council decided on consideration of circular 11/50 (Wales), to convene a meeting which resulted in the formation of a voluntary body known as the County Committee for the Welfare of Old People, and as a preliminary step this body decided to institute a survey throughout the county of the needs of the aged in the way of domestic help, residential accommodation, social clubs, meals on wheels, etc.

The Anglesey Rural Community Council has been active in the promotion of local efforts to establish clubs for old people. New clubs have been opened at Beaumaris, Menai Bridge, Amlwch and Holyhead. Public meetings were also held at a number of villages with a view to starting social centres for the aged. The Rural Community Council has also been instrumental in obtaining grants from the National Corporation for the Care of Old People towards the initial cost of establishing these clubs.

Welfare of the Blind.

During the year the North Wales Society for the Blind ceased to act as the Council's agent for the administration of welfare services for this category of handicapped persons under Section 29 of the Act. One teacher of the blind was transferred to the employ of the council.

Table 35

REGISTER OF BLIND PERSONS

	<i>On</i> 1/1/51	<i>On</i> 31/12/51
Males.....	62	63
Females	80	86
Total.....	<u>142</u>	<u>149</u>

Changes during the year :

New cases registered.....	28
Deaths of persons on register	19
Transfers " in ".....	2
Transfers " out "	4

The age composition of the blind population on 31/12/51 was as follows :—

Table 36

<i>Age in years</i>	<i>No. on Register</i>
0-4	—
5-15.....	1
16-20.....	1
21-39.....	6
40-49.....	7
50-64.....	31
65 upwards	103
Total.....	149

It is obvious when the greater part of the blind are aged the scope of the teacher is limited. During the year, there were four registered home workers, two of whom were not actively engaged as such ; in addition, 18 pastime workers received supervision. The Home Teacher paid 1,518 visits to registered blind persons, and 57 visits to observation cases.

The British Red Cross Society was very helpful in the provision of small extras, which were much appreciated.

The North Wales Society for the Blind again provided a summer outing to Llandudno, and a Christmas Party in Llangefni (held in September to suit the British Broadcasting Corporation, who recorded part of it and broadcast it at a later date). Each blind person also received a Christmas gift through the generosity of the Society.

Five persons enjoyed a fortnight's stay at Llys Onnen Home for the Blind at Abergele.

THE CONTROL OF FOOD AND DRUGS

REPORT OF THE CHIEF OFFICER OF THE FOOD AND DRUGS DEPARTMENT UPON THE ADMINISTRATION OF THE FOOD AND DRUGS ACT, 1938
AND OTHER ALLIED DUTIES.

Food and Drugs Act, 1938.

During the year, 116 samples of food were submitted to the Public Analyst for analysis. Adverse reports were received in respect of 33 samples. Included in this number were 47 samples of milk, of which 25 were reported as being "Not Genuine."

448 samples of milk were examined in the Department's Laboratory for butter-fat and non-fatty solids. Samples being below the presumptive standards laid down in the Sale of Milk Regulations, 1939, were followed up by formal samples which were submitted to the Public Analyst.

Table 37

DETAILS OF SAMPLES SUBMITTED TO THE PUBLIC ANALYST.

<i>Food</i>	<i>Number Submitted</i>	<i>"Genuine"</i>	<i>"Not Genuine"</i>
Milk.....	47	22	25
Beverages.....	17	17	—
Medicines.....	28	22	6
Confections.....	6	6	—
Ice Creams.....	6	6	—
Extracts	2	2	—
Tinned Foods.....	4	4	—
Meat Products.....	2	1	1
Dried Egg	1	—	1
Cereal	2	2	—
Margarine	1	1	—
Totals	116	83	33

Non-Genuine Samples.

(i) MILK.

(a) *Deficient in Fat.*

Three samples were reported as being deficient in Fat to the extent of 3 per cent., 3 per cent. and 67 per cent. respectively. In each case the details of the Public Analyst's Certificate were brought to the notice of the vendor.

With regard to the 67 per cent. deficiency which occurred in accommodation milk purchased by the vendor for re-sale, a thorough investigation indicated that the deficiency might have been brought about by circumstances outside the retailer's control and, consequently, proceedings were not instituted.

(b) *Deficiency in Solids-not-Fat.*

Twelve samples were reported as being low in Solids-not-Fat. As each sample had a normal freezing point, there was no addition of water. The vendor's attention was drawn to the Certificate of Analysis and a suggestion made that it might be considered advisable to consult a veterinary surgeon in the matter.

(c) *Added Water.*

(i) Two informal samples were reported to contain 9 per cent. and 14 per cent. of water respectively.

P.A.4/51. Fat 2.8 per cent. Solids-not-Fat 7.8 per cent. Freezing Point.—0.501 degrees C. 9 per cent. added water.

P.A.7/51. Fat 2.8 per cent. Solids-not-Fat 7.3 per cent. Freezing Point.—0.456 degrees C. 14 per cent. added water.

These were followed up by 3 formal samples with the following result :—

P.A.6/51. Fat 2.9 per cent. Solids-not-Fat 7.6 per cent. Freezing Point.—0.496 degrees C. 11 per cent. added water.

P.A.8/51. Fat 4.85 per cent. Solids-not-Fat 8.10 per cent. Freezing Point.—0.549 degrees C. No added water.

P.A.9/51. Fat 3.0 per cent. Solids-not-Fat 8.10 per cent. Freezing Point.—0.514 degrees C. 5 per cent. added water.

Appeal to Cow Samples were reported as being "Genuine."

An investigation indicated that the addition of water was due to inexperienced cleaning of the milking machine, together with a faulty valve construction.

Proceedings were instituted and the defendant granted an absolute discharge on payment of costs.

(ii) This sample was reported to contain 5 per cent. of added water. The subsequent Appeal to Cow Samples were "Genuine."

Proceedings were instituted and the defendant fined £1 and ordered to pay £3 3s. 0d. costs.

Details of the Certificates were as follows :—

P.A.12/51. Fat 3.1 per cent. Solids-not-Fat 8.1 per cent. Freezing Point.—0.501 degrees C. 5 per cent. added water.

P.A.13/51. Fat 4.3 per cent. Solids-not-Fat 8.7 per cent. Freezing Point.—0.549 degrees C. No added water.

P.A.14/51. Fat 3.55 per cent. Solids-not-Fat 8.7 per cent. Freezing Point.—0.553 degrees C. No added water.

(iii) Two samples from the same vendor were reported to contain 14 per cent. and 8 per cent. of added water respectively.

Appeal to Cow Samples were genuine, and proceedings were, therefore, instituted. The defendant was ordered to pay fines and costs amounting to £13 11s. 0d.

Details of the Certificates were as follows :—

P.A.31/51. Fat 3.5 per cent. Solids-not-Fat 7.3 per cent. Freezing Point.—0.450 degrees C. 14 per cent. added water.

P.A.32/51. Fat 3.2 per cent. Solids-not-Fat 7.8 per cent. Freezing Point.—0.484 degrees C. 8 per cent. added water.

P.A.33/51. Fat 4.2 per cent. Solids-not-Fat 8.7 per cent. Freezing Point.—0.556 degrees C. No added water.

P.A.34/51. Fat 3.45 per cent. Solids-not-Fat 8.9 per cent. Freezing Point.—0.554 degrees C. No added water.

(iv) Based on the presumptive standard of 8.5 per cent. for Solids-not-Fat, this sample was reported to contain 7 per cent. added water. The presence of water was confirmed by the freezing point. Two Appeal to Cow Samples were taken and both were reported to be naturally low in Solids-not-Fat, and as a result of which, proceedings were not instituted.

Details of the Certificates were as follows :—

P.A.40/51. Fat 3.25 per cent. Solids-not-Fat 7.9 per cent. Freezing Point.—0.512 degrees C. 7 per cent. added water.

P.A.42/51. Fat 4.35 per cent. Solids-not-Fat 8.1 per cent. Freezing Point.—0.546 degrees C. No added water.

P.A.43/51. Fat 3.2 per cent. Solids-not-Fat 8.2 per cent. Freezing Point.—0.526 degrees C. No added water.

(d) *Milk and Dairies Regulations 1949.*

Tubercle bacilli had been detected in the milk retailed by an "Accredited" producer. Details were submitted to the Local Authority, who issued a notice under Regulation 20, which was served on the producer, requiring him to have his milk heat treated before retail sale. Following the serving of this Notice, a formal sample was taken from the producer and submitted to the Public Analyst, who reported that the milk was "Raw" or "grossly under-heated." The matter was reported to the Local Authority for any necessary action.

II. MEDICINES.

(a) *Embrocation.*

Reported to be 50 per cent. deficient in the main ingredient, Pine Oil.

In August, 1949, the manufacturer of this article was convicted in respect of a similar sample. He had then given an undertaking to withdraw, as far as possible, all stocks.

Investigations indicated that the bottle which had been the subject of the sample had been in stock a number of years and the wholesaler who had supplied it could not be traced. The manufacturer was interviewed and no further action taken. Further samples have been taken of this commodity from time to time and all have been reported "Genuine."

(b) *Indigestion Tablets.*

Reported to contain 8.5 per cent. of siliceous matter which, in the opinion of the Public Analyst, was too high. The details of the Certificate were brought to the notice of the manufacturers.

(c) *Indian Brandee.*

In which there was a slight discrepancy between the percentage of sugar found by the Analyst and that stated on the label. The attention of the manufacturer was drawn to the Public Analyst's Certificate.

(d) *Vitamin A.*

Three samples of medicine were submitted for Vitamin A estimation and were reported to contain less of that Vitamin than was declared on the label. Details of the Certificates of Analysis were sent to the manufacturers concerned. The stocks have been withdrawn.

III. POTTED MEAT.

The Analyst reported that the sample was not potted meat as labelled but meat loaf. Further consignments have been correctly labelled.

IV. DRIED EGG.

Reported to have a high moisture content and an unpleasant taste and odour. This was considered due to inefficient storage and the stocks were withdrawn.

Food Standards.

Statutory standards of quality are now in force in respect of the following articles of food :—

Milk (presumptive), Butter ; Margarine ; Spirits ; Condensed and Dried Milk ; Baking Powder ; Curry Powder ; Gelatine ; Fish Cakes ; Fish and Meat Paste ; Ice Cream ; Coffee Essence ; Mustard ; Jam ; Marmalade ; Mince-meat ; Fruit Curd ; Salad Cream ; Tomato Ketchup ; Shredded Suet ; Table Jellies ; Self-Raising Flour.

The above standards are enforceable by the County Council, but standards for Channel Island Milk (minimum 4 per cent. of fat) and Sausages and Sausage Meat form part of a Price Control Order, the enforcement of which is the responsibility of the Ministry of Food. It is to be regretted that the quality of all articles of food are not covered by Food and Drugs legislation.

Examination of Milk Samples for Tuberculosis and Brucella Abortus.

110 samples of milk were submitted during the year for Biological Examination for Tuberculosis and Brucella Abortus.

One positive tuberculosis and 3 positive brucella abortus reports were received.

For a milk producing county such as Anglesey, 110 samples in a year is much too low and it is to be sincerely hoped that, in the very near future, arrangements will be made whereby it will be possible for us to submit up to 1,200 samples per annum.

Pasteurised Milk.

182 samples of pasteurised milk were taken from the two pasteurising plants in the county. All were of satisfactory bacteriological quality, but one sample failed the Phosphatase Test, indicating insufficient heat treatment, or contamination by raw milk.

163 samples of pasteurised milk were taken from the school supplies. Again, all were of satisfactory bacteriological quality, but 9 failed the Phosphatase Test.

Bacteriological Examination of Milk Supplies.

215 samples of milk were taken from retail supplies in the County and were examined bacteriologically by the Department ; 9 failed the prescribed Methylene Blue Test.

Up to October 1st, 1949, non-designated milk retailed in the County was sampled and examined for cleanliness and keeping quality by Officers of the Ministry of Agriculture and Fisheries. Unsatisfactory samples were followed up by advisory visits, and, if these failed, the facts were reported to the Milk Production Committee of the Anglesey Agricultural Executive Committee for further action.

When, in 1949, the administration of the Milk and Dairies Regulations passed from Local Authorities to the Ministry of Agriculture and Fisheries, for some reason or other, this scheme was discontinued and from that date, it appears that no steps were taken by the Ministry to ascertain the cleanliness of non-designated raw milk retailed in the County. Samples have been taken and examined by this Department but there were no arrangements for any subsequent advisory or administrative action.

It was felt that there was a need for closer liaison between the Ministry and the County Council, and as a result, the following scheme was approved by both bodies :—

- (1) The Food and Drugs Department undertake the quarterly sampling of all non-designated raw milk retailed in the County.
- (2) The samples be submitted for examination for cleanliness (Methylene Blue) to the Area Laboratory of the Ministry at Bangor.
- (3) No charge be made for the examination of samples.
- (4) The results of the examinations be sent both to the County Council and to the local officers of the Ministry of Agriculture.
- (5) All samples considered unsatisfactory be followed up within a fortnight by repeat samples.
- (6) Officers of the Ministry to take any necessary advisory or administrative action as a result of these samples.

Ice Cream.

263 samples of Ice Cream were submitted for Bacteriological Examination to the Public Health Laboratory at Conway. The results of the examination were classified as follows :—

	1951	1950
Provisional Grade 1	104 (39.6 per cent.)	109 (33.8 per cent.)
Provisional Grade 2	88 (33.4 per cent.)	92 (28.6 per cent.)
Provisional Grade 3	38 (14.4 per cent.)	67 (20.8 per cent.)
Provisional Grade 4	33 (12.6 per cent.)	54 (16.8 per cent.)

Eight samples were submitted for the presence of pathogenic organisms and all were negative. Six samples were submitted for examination for B. Coli, of which 3 were positive in 1 ml.

Pharmacy and Poisons Act, 1933.

At December 31st, 1951, 107 premises were registered for the sale of Part II Poisons. These premises were regularly inspected and no serious infringements of the Rules were detected.

Pharmacy and Medicines Act 1941.

Three alleged infringements of the labelling requirements of the Act were referred to the Pharmaceutical Society of Great Britain for appropriate action.

SANITARY CIRCUMSTANCES

Housing.

The table 38 (which is adapted from Appendix B of the Quarterly Housing Return of the Ministry of Housing and Local Government) gives details of the housing progress in the various county districts since the end of the war.

Table 38

District	No. of houses built or under Constr.		Increase since 31 Dec., 1950		Total No. of houses built or under constr. per 1,000 Population
	by C'cil	by Private Builders	C'cil.	Private	
Beaumaris Bor.	130*	1	30	—	61.3
Amlwch Urban	70	28	22	10	35.3
Holyhead Urban	247*	4†	10	—	24.0
Llangefni Urban	212*	22	28	8	105.1
Menai B. Urban...	80	19	36	9	50.7
Aethwy Rural....	103	29†	32	6	12.2
Twrcelyn Rural	112	19	—	4	15.6
Valley Rural	126	30	56	9	12.8
Total.....	1,080	152	214	46	24.2

* Includes temporary houses completed.

† Includes rebuilding of war destroyed buildings.

It will be seen that 260 new houses had been built or were under construction at the end of the year. Considerable variations are seen in the performance of individual districts. Valley and Menai Bridge have most progress to show in 1951, while Twrcelyn and Holyhead made little headway. Up to the end of 1951 urban areas in Wales had an average record of 24.2 houses per 1,000 population (built or under construction by council or private builders). All the urban authorities in Anglesey are therefore well above the average except for Holyhead. The comparable figure for Welsh rural authorities is 25.2 so that all the rural areas in Anglesey are well below the average.

The attempt on the part of the county council to assist the rural districts to overcome the peculiar difficulties of housing in rural areas did not meet with any large measure of success. Only one council (Aethwy R.D.C.) accepted the offer of help.

In my report for 1949 details were given of the estimated housing needs of the county based on information supplied by the sanitary inspectors for their respective districts. Those figures indicated that at the most conservative estimate 2,100 houses were needed in Anglesey to relieve overcrowding and to allow for the demolition of unfit dwellings. Without conducting an *ad hoc* housing survey this was the nearest we could come to an assessment of the county's need for

new housing. In due course the detailed results of the 1951 census will be available and these should throw considerable light on the question.

Meanwhile, the results have recently been published of the 1 per cent. sample taken at the time of the census. These figures, based on a small sample are, of course, subject to a degree of chance fluctuation and need to be interpreted with reserve. The 1 per cent. sample indicates that 6.14 per cent. of the population of Anglesey are living in overcrowded conditions compared to 2.16 per cent. of the population of England and Wales. In order completely to alleviate overcrowding in the county it appears that 2,300 houses would be needed. The facilities available in the home were relatively less adequate than in the country as a whole as may be judged from the following comparisons.

Per cent. of all households without the exclusive use of:

	<i>Water Closet</i>	<i>Fixed Bath</i>	<i>Kitchen Stove and Sink</i>
Anglesey	5.4	6.8	5.0
England and Wales.....	2.1	4.5	1.4

Apart from the above details the 1 per cent. sample report does not give any information concerning houses unfit for habitation.

Elsewhere in this report (page 78) evidence is adduced of the relationship of overcrowding in the home and infant mortality.

Water Supplies.

Work on the construction of the *County Water Scheme* continued during the year and reached a stage when the Cefni supply was brought into use. Water from Llyn Cefni was used to supplement the Traffwll supply to Holyhead for the first time in April. The mains from Gwalchmai to Llanfairpwll were brought into use shortly afterwards so that the summer of last year saw all villages on the A.5. road supplied with piped water. The extension of the main from Llanfair to Beaumaris was also commenced as well as lateral mains to Bryn-siencyn, Newborough and Amlwch.

A total of 23,071 yards of main were laid during the year and new connections were made to 297 premises.

As Llyn Cefni was brought into service difficulties arose over the necessary treatment, particularly as the result of an unforeseen increase in the manganese content of the raw water during warm weather. This interfered with the sedimentation process and complicated the

subsequent sterilisation. A careful watch was kept on the bacteriology of the treated water—as the number of samples taken indicates—but the problem had not been entirely solved before the manganese content of the raw water fell to normal levels. The experimental work done at this stage should prove of value if the trouble recurs.

As a precautionary measure all personnel employed in the water department were medically examined and submitted to a Widal test. Stool and urine bacteriology was investigated in all cases showing suspicious agglutinations. Advice was given too, on the public health aspects of a scheme of afforestation for the land surrounding Llyn Cefni and the Forestry Commission's workmen were eventually examined in the same way as the Water Department staff.

Samples of piped water supplies were submitted for analysis with the following results :—

Table 39

BACTERIOLOGICAL RESULTS OF WATER SAMPLES.

<i>Supply.</i>	<i>Ministry of Health Classification</i>				
	I.	II.	III.	IV.	<i>Total</i>
Bull Bay	5	—	—	—	5
Benllech	1	—	—	—	1
Beaumaris	9	—	—	1	10
Menai Bridge.....	1	—	—	—	1
Llangefni	19	—	1	4	24
Rhosneigr	8	—	—	—	8
Holyhead	12	—	—	—	12
Bryngwyn Mawr	2	—	—	—	2
County Supply	60	2	5	—	67
Total.....	117	2	6	5	130

A large number of these samples were taken by the District Sanitary Inspectors. The Anglesey County Council (Water, etc.), Act, 1944, provides that on the second day of transfer, as defined in the Act, the County Council shall become the water authority for the whole island. In order to ensure the purity of supplies it will be necessary to evolve a comprehensive sampling scheme, and as it is customary to divorce the supervision of the purity of water supplies from the water undertaking as such, this task will presumably be placed on the Health Committee.

Well Waters were submitted for analysis by the sanitary inspectors and others on 94 occasions, and as was to be expected, the great majority of samples (62 per cent.) showed evidence of pollution serious enough to condemn the supply as a safe source of water for human consumption.

Even when the county water scheme is completed many areas in the county will continue to be dependent on well waters, and in anticipation of the second day of transfer it is important that the county council as water authority should collect precise information relative to these wells. Structural state, topography, yield and quality under varying conditions of rainfall are all matters which should be accurately known concerning any well likely to be pressed into service, for only thus will the Council be in a position to make the best arrangement for the locality either by extension of mains supply or by doing necessary works to likely wells in the areas.

Fluoridation

The Committee, during 1951, decided to seek Ministerial approval to the addition of *fluorides* to the county water scheme supply as a measure to prevent dental caries. This measure, which has been widely adopted in U.S.A., holds promise of a substantial reduction in the amount of dental disease, to be achieved moreover by a technically simple and relatively inexpensive method. From the latest information available about the chemicals used it appears that the annual maintenance costs for the county water scheme would not exceed £200. After some correspondence the Minister eventually agreed to bear in mind the council's interest in the matter should the working party at present studying U.S.A. methods recommend establishing pilot schemes in this county.

Sewage Disposal.

A number of schemes are in various stages of preparation, but work was commenced on one only—Bodffordd—during 1951. The Amlwch scheme was completed during the year and extensions to existing schemes to connect new housing estates were made at Beaumaris, Llangefni, Menai Bridge and Holyhead.

General.

At the time of writing, the Annual Reports of my colleagues the Medical Officers of Health of county districts, had not been published. It is difficult for me to review adequately the sanitary conditions in the county without the benefit of these reports. It is sincerely hoped that every effort will be made to enable district medical officers to write their reports earlier in the year in future.

APPENDIX "A."

 CONSTITUTION OF HEALTH COMMITTEE (YEAR 1951/2)

Chairman : J. F. Chadwick, Esq., B.A., M.C.

Vice-Chairman : Hugh Jones, Esq., J.P.

*Mrs. A. Griffith, J.P.

Mrs. Margaret Hughes, B.E.M.

*Mrs. G. Hughes-Jones, M.B.E.

Mrs. Walter O. Jones, J.P.

*Miss I. Johnston.

Mrs. J. Morris.

Lady Kathleen Stanley, J.P.

Mr. R. D. Briercliffe, C.B.E., J.P.

Sir Wynne Cemlyn-Jones.

Mr. William Davies.

Mr. David Evans, J.P.

*Mr. D. A. Godfrey, L.D.S., R.C.S.

†Mr. G. R. Evans, J.P.

Mr. Cledwyn Hughes, M.P., LL.B.

Rev. D. R. Hughes.

Mr. A. Ifan Jones, M.B.E., J.P.

Rev. J. Lambert Jones.

*Dr. Leslie W. Jones.

*Dr. G. Llywelyn Jones.

Mr. W. P. Jones.

Mr. T. Grey Jones.

Mr. Percy O. Jones.

Mr. Llewelyn W. Jones, M.P.S.

Mr. R. D. Jones.

Mr. W. Shubert Jones, J.P., B.Sc.

Mr. John Lloyd.

Mr. E. R. Oliver.

Mr. W. Charles Owen.

Mr. Griffith Pritchard.

Mr. Robert Roberts, J.P.

*Col. The Hon. O. H. Stanley,
D.S.O., D.L., J.P.

Mr. William Thomas.

Mrs. E. G. Williams.

Mr. J. Morris Williams.

*Mr. Arthur Williams, J.P., B.Sc.

*Prof. O. Herbert Williams, F.R.C.S.

Mr. W. O. Williams.

Mr. E. R. Williams.

* Co-opted members. † Ex. officio.

APPENDIX "B."

STAFF OF THE COUNTY HEALTH DEPARTMENT

County Medical Officer of Health, School Medical Officer and County Welfare Officer.	G. Wynne Griffith, M.D., D.P.H.
Assistant County Medical Officers of Health and Assistant School Medical Officers.	†G. H. Browse Roberts, M.A., M.B., B.Ch., B.A.O., D.P.H., L.M. †G. P. Wallace, M.A., M.B., Ch.B., D.P.H. Mrs. Mair Humphreys-Jones, M.B., Ch.B., C.P.H.
Dental Officers	Dr. Catherine Rolant Thomas, M.R.C.S., L.R.C.P., L.D.S. Mr. Elwyn Jones, L.D.S.
Dental Attendants	Miss Megan Evans. Miss M. Roberts.
Consulting Obstetrician	*O. Vaughan Jones, M.D., F.R.C.S., M.R.C.O.G.
Consulting Paediatrician	*Gwyn R. Griffith, M.D., F.R.C.P., D.P.H.
Chest Physician	*J. Glyn Jones, M.A., M.D., B.Chir., M.R.C.S., L.R.C.P.
Consulting Ophthalmologists	*G. C. Laszlo, M.D., L.R.C.P., D.O. *T. G. Wynne Parry, M.R.C.S., L.R.C.P., D.O.M.S.
Consulting Orthopaedic Surgeon	*Prof. B. L. McFarland, M.D., M.Ch. (Orth.), F.R.C.S., *G. I. Roberts, M.B., Ch.B., M.Ch. (Orth.) F.R.C.S.
Venereologist	*H. Vernon Williams, M.R.C.S., L.R.C.P.
† Also part-time District Medical Officers of Health.	
* Under contract with Regional Hospital Boards.	
Authorised Officers	*William Owen, Llys Owain, Salem Street, Amlwch (Tel., Amlwch 298). *R. J. Williams, Pen Loyn, Llanddaniel. (Tel., Gaerwen 24). *T. Jones, 7, Corn Hir, Llangefni. H. Betts, 7, Pennant, Llangefni.
* Also District Welfare Officers.	

ADMINISTRATIVE STAFF

Chief Administrative Assistant	Horace Betts, D.P.A.
Clerks	Maldwyn Jones. Miss D. M. Williams. Miss Eluned Jones. R. J. Jones. W. R. Roberts. Mrs. Gwen Thomas (née Williams). Mrs. Margaret Roberts (née Thomas).
Deputy Ambulance Officer	Mr. W. T. Rowlands.
Administrative Assist. (Welfare)	Miss Gladys Roberts.

ASSOCIATED OFFICERS OF THE COUNTY COUNCIL

Clerk of the County Council	William Jones, O.B.E.
Deputy Clerk of the County Council	Idris Davies, LL.B.
County Architect	N. Sq. Johnson, A.R.I.B.A., A.M.T.P.I.
County Treasurer	J. E. Hughes.
Inspector of Food and Drugs	H. A. Thomas.
Public Analyst	Harold Lowe, M.Sc., F.R.I.C.
Children's Officer	Miss M. Rowland.
County Water Engineer	W. H. Austin, B.Sc. (Eng.), A.M.I.C.E., M.I.W.E.

OTHER STAFF

Home Teacher for the Blind	Miss Dilys Jones.
Superintendent Nursing Officer	Miss Hilda V. Parry, S.R.N., S.C.M., Q.N., H.V.Cert.
Health Visitors	*Miss G. Hughes. *Mrs. E. Jones. *Miss E. C. Parry. Miss M. G. Hall. *Miss M. R. Parry. *Miss E. C. Pritchard. *Mrs. M. M. Williams.

* Also School Nurses.

Student Health Visitor
District Nurse/Midwives

Miss G. Pritchard (commenced 1/10/51).
Nurse Vidler, Bryn Mona, Rhosybol (Tel., Amlwch 338).
Nurse E. Jones, Tyddyn Ball, Llanfechell (Tel., Cemaes Bay 247).
Nurse E. Williams, 4, London Road, Bod-
edern (Tel., Valley 246).
Nurse E. P. Jones (left 31/3/52).
Nurse M. C. Owen (left 1/5/52).
Nurse D. Williams, 38, Bron y Graig,
Llangefni (Tel., Llangefni 208).
Nurse E. M. Hughes, Llety, Brynteg (Tel.,
Tynyngogl 384).
Nurse W. M. Roberts, Nurse's Cottage,
Bodorgan (Tel., Bodorgan 62).
Nurse E. Wyn Hughes, Llain Nest, New-
borough (Tel. Newborough 213).
Nurse M. Jones, Plas Hen, Llanddaniel.
Nurse C. Davies, 38, Bron y Graig, Llan-
gefni (Tel., Llangefni 208).
Nurse L. Williams, 4, High Street, Menai
Bridge (Tel., Menai Bridge 100).
Nurse A. Evans, 15, Rose Hill, Beaumaris
(Tel., Beaumaris 83).
Nurse G. Price, 31, Tara St., Holyhead
(Tel., Holyhead 300).
Nurse P. Lloyd, Bryn, Holyhead (Tel.,
Holyhead 290).
Nurse G. Connor, 9, Porthdafarch Road,
Holyhead (Tel., Holyhead 141).
Nurse P. M. Murphy, Ty Ceiliog, Beau-
maris (Tel., Beaumaris 96).
Nurse E. Parry, Haulfre, Bethesda Street,
Amlwch (Tel., Amlwch 396).

APPENDIX "C."

PRESENT ARRANGEMENTS AT ANTE-NATAL CLINICS

<i>Clinic</i>	<i>Time</i>	<i>Place where held</i>	<i>Days when held in month</i>
AMLWCH	2 p.m.	Glanrafon	2nd and 4th Wednesday
HOLYHEAD	2 p.m.	Infant Welfare Centre	Every Wednesday
LLANGEFNI	2 p.m.	Fronidirion Clinic	1st and 3rd Thursday
MENAI BRIDGE	2 p.m.	4, High Street	4th Thursday

PRESENT ARRANGEMENTS AT INFANT WELFARE CENTRES

<i>Name of Centre</i>			<i>Place where held</i>	<i>Days when held (in month)</i>
AMLWCH	...	...	Court Room	1st and 3rd Tuesday
BODORGAN	...	...	Bethel Schoolroom	1st and 3rd Tuesday
BEAUMARIS	...	...	Y.W.C.A. Bldg.	1st and 3rd Thursday
CEMAES BAY	...	...	Village Hall	1st and 3rd Friday
GWALCHMAI	...	...	Village Hall	2nd and 4th Thursday
HOLYHEAD	...	...	Infant Welfare Centre	1st and 3rd Thursday
LLANGFNI	...	...	Fronidirion Clinic	2nd and 4th Wednesday
LLANFAETHLU	...	...	Coffee House	2nd and 4th Friday
LLANERCHYMEDD	...	...	Bank House	1st and 3rd Tuesday
LLANDDONA	...	...	Village Hall	2nd and 4th Wednesday
LLANFAIRPWLL	...	...	Village Hall	2nd and 4th Friday
MARIANGLAS	...	...	Old British School	1st and 3rd Monday
MENAI BRIDGE	...	...	4, High Street	2nd and 4th Tuesday
NEWBOROUGH	...	...	Methodist Church	1st and 3rd Wednesday
VALLEY	...	...	Church Hall	2nd and 4th Monday

APPENDIX "D."

AREA, POPULATION, BIRTHS, DEATHS FOR 1951

	<i>Area in Acres</i>	<i>Population Census 1931</i>	<i>Population Census 1951</i>	<i>Population Mid-year 1951</i>	<i>Live Births</i>	<i>Deaths</i>
Amlwch	4,494	2,562	2,700	2,774	45	46
Beaumaris	3,135	1,710	2,128	2,136	34	41
Holyhead	730	10,700	10,569	10,460	187	152
Llangefni	2,510	1,782	2,225	2,226	38	34
Menai Bridge	824	1,675	1,855	1,954	31	36
Urban	11,693	18,429	19,477	19,550	335	309
Aethwy	52,352	10,765	10,434	10,810	153	173
Twrcelyn	53,865	8,644	8,569	8,410	110	121
Valley	58,784	11,191	12,157	12,210	223	169
Rural	165,001	30,600	31,160	31,430	486	463
Anglesey ...	176,694	49,029	50,637	50,980	821	772

ANNUAL RATES PER 1,000 ESTIMATED POPULATION

<i>District</i>	<i>Birth Rate</i>	<i>Death rate for:</i>				
		<i>All Causes</i>	<i>Phthisis</i>	<i>Respir- atory</i>	<i>Cancer</i>	<i>Heart Disease</i>
Amlwch	16.2	16.6	—	0.7	1.1	3.6
Beaumaris	15.9	19.2	—	1.4	2.8	6.6
Holyhead	17.9	14.5	0.2	1.8	2.3	4.1
Llangefni	17.1	15.3	0.4	0.9	1.3	5.4
Menai Bridge	15.9	18.4	—	1.5	2.0	6.1
Urban	17.1	15.8	0.2	1.5	2.0	5.9
Aethwy	14.2	16.0	0.5	1.5	2.9	4.6
Twrcelyn	13.1	14.4	0.2	0.8	2.0	3.9
Valley	18.3	13.8	0.3	1.1	2.3	3.6
Rural	15.5	14.7	0.3	1.2	2.4	4.0
Anglesey	16.1	15.1	0.3	1.3	2.3	4.3

INFANT DEATHS—STILLBIRTHS—MATERNAL DEATHS

<i>District</i>	<i>Infant Deaths</i>		<i>Stillbirths</i>		<i>Maternal Deaths</i>	
	<i>No.</i>	<i>Rate*</i>	<i>No.</i>	<i>Rate**</i>	<i>No.</i>	<i>Rate**</i>
Amlwch	5	111.1	—	—	—	—
Beaumaris	1	29.4	1	28.6	—	—
Holyhead	13	69.5	1	5.3	—	—
Llangefni	3	78.9	—	—	—	—
Menai Bridge	3	96.8	2	60.6	—	—
Urban	25	74.6	4	11.8	—	—
Aethwy	7	45.7	4	26.7	—	—
Twrcelyn	3	27.3	3	26.5	—	—
Valley	10	44.8	5	21.9	—	—
Rural	20	41.2	12	24.1	—	—
Anglesey	45	54.8	16	19.1	—	—

* per 1,000 live births.

** per 1,000 births (live and still).

APPENDIX "E"

INFANT LIFE WASTAGE

Introduction

The wastage of infant life in Anglesey is excessive. By this is meant that the stillbirth and infant mortality rates for the county are above the rates prevailing in the country generally. The subject was reviewed comprehensively by my predecessor in the Annual Report for 1947, at a time when preparations were being made for the provision of services under the National Health Service Act, and the conclusions he reached then served to guide the Council in shaping these new services.

One of the disadvantages inherent in considering the vital statistics of a population the size of Anglesey is that the absolute numbers involved in a given space of time are small and for that reason subject to considerable chance variations. But the services mentioned have now been functioning for three whole calendar years, and the time therefore appeared opportune to essay a further review of the subject, using the pooled experience of these three years. From the 1st January, 1949, every case of stillbirth and every infant death that has come to notice has been the subject of special enquiry by the health visitors, and certain relevant details have been collected for each case. The analysis that follows is based partly on data supplied by the Registrar-General and partly on the further information available as a result of these enquiries.

The period covered by this analysis is, then, the three year period 1949/51, and the table below shows the Anglesey rates, together with the corresponding rates for England and Wales. The table also shows the excess wastage in Anglesey expressed as a percentage of the England and Wales rate. The still birth rate is expressed per 1,000 total births, and the infant mortality rate per 1,000 live births.

Table 1.

<i>Rate</i>	<i>Anglesey</i>	<i>England & Wales</i>	<i>Perc'tage excess</i>
Stillbirth rate	25.3	22.7	11
Infant mortality rate	45.7	30.7	50
Total wastage	71.0	53.4	33

The first point to note is that the major contribution to the excess wastage is made by the infant mortality rate, while the stillbirth rate is only slightly in excess of the figure for England and Wales. Over the whole period there is a difference of 17.6 points per 1,000 in the total wastage.

The experience of County Districts

Can we localise the divergencies noted to particular areas in the county? The next table gives the stillbirth rates, infant mortality rates and the total wastage experienced in the individual county districts during the period under review, together with the combined data for urban districts and for rural districts.

Table 2.

	<i>Stillbirth Rate</i>	<i>Infant Mort. Rate</i>	<i>Total Wastage</i>
Amlwch	16.7	50.8	67.5
Beaumaris	42.7	62.5	105.2
Holyhead	19.0	51.0	70.0
Llangefni	Nil	52.2	52.2
Menai Bridge	52.6	44.4	97.0
Aethwy	35.7	48.7	84.4
Twrcelyn	25.0	43.3	68.3
Valley	20.7	29.0	49.7
Borough/Urban Districts (combined)	22.0	51.8	73.8
Rural Districts (combined).....	27.6	41.6	69.2

At first sight there appears to be considerable variation. The stillbirth rate, for example, varies from nil in Llangefni to 52.6 in Menai Bridge, and the infant mortality rate from 29.0 in Valley to 62.5 in Beaumaris. Valley has the lowest total wastage which is less than half that of Beaumaris, which has the highest. It would be unwise, however, to attach too much importance to these individual rates, because the numbers on which the rates are based are small, even when the experience of three consecutive years is used for the purpose. This is particularly true of the smaller urban areas. The figures for the combined urban and rural areas are not dissimilar, and one can only conclude, somewhat guardedly, that the operation of any adverse factors is not confined to any particular district or type of district.

The Age Incidence of wastage

The factors affecting the wastage of infant life are many and varied, and they exert their influence at different stages in the infant's development. From the moment of fertilization of the ovum adverse genetic influences may be operating; in the early stages of pregnancy, as has recently been recognized in the case of rubella, maternal ill-health may have serious effects on the developing embryo; later in pregnancy some abnormal state may arise causing labour to commence prematurely with resulting dangers to the infant's life; even where pregnancy has been normal and arrives at full-term the confinement may not proceed smoothly so that in the birth process an injury, having fatal consequences, may be inflicted on the infant; and when the hazards of pregnancy and of birth have been safely negotiated the

newborn infant is exposed more or less directly to the operation of adverse influences present in his environment; he may, for example, contract a fatal infection or a serious accident may befall him.

In seeking therefore to elucidate the relative importance in a given population of the complex factors affecting infant life wastage, one useful step is to consider the age incidence of the wastage. The next table shows the stage in the infant's life when the mortality occurred and compares the experience in Anglesey in the period under review with that of England and Wales in 1949 (more recent data for England and Wales have not yet been published.)

Table 3.

ANGLESEY 1949/51

<i>Stage in infant's existence.</i>	<i>Actual Nos.</i>	<i>Expected Nos.</i>	<i>Excess</i>
Stillbirth	66	59.0	7.0
0—1 days	26	19.4	6.6
1—7 days	22	20.3	1.7
1—4 weeks	20	9.3	10.7
1—3 months	21	12.3	8.7
3—12 months	27	21.3	5.7

The "expected numbers" are the numbers that would have occurred in Anglesey had the rate for the county in 1949/51 been the same as that for England and Wales in 1949.

From this table it will be seen that the excessive wastage in a period of three years amounts to 40.4.

This excessive wastage may be divided into three roughly equal parts: stillbirths and early neonatal deaths (deaths during the first week of life) account for 15.3 or 39 per cent. of the total; late neonatal deaths (ages 1—4 weeks) account for 10.7 or 26 per cent. of the total; the remaining (post-neonatal) deaths account for 14.4, or 35 per cent. of the total excessive wastage. In terms of rates per 1,000 the stillbirth and early neonatal wastage account for 6 or 7 points, the late neonatal wastage for 4 or 5 points, and the post-neonatal wastage for 5 or 6 points of the difference between the Anglesey and England and Wales figures.

It is necessary, therefore, to examine in detail the available data for these three age periods. Before doing so, however, it will help if we consider briefly the relationship of wastage to the social classes in society.

The effect of Social Class

One obvious social distinction among infants is the distinction between legitimate and illegitimate, and ever since the difference was first recorded in the national statistics (in the year 1906) there has always been a marked disparity in the wastage of infant life for these two groups. Although in recent years the relative advantage of the legitimate infant has decreased considerably, a distinct gap still remains. In 1949 for instance, the infant mortality rate of illegitimate infants in England and Wales was 40 per cent. above that of legitimate babies. The proportion of births in Anglesey which are illegitimate is approximately 20 per cent. higher than that in England and Wales as a whole. In 1949 (which are the latest relevant published figures) 5.1 per cent. of all births in England and Wales were illegitimate. During the period under review, 6.2 per cent. of all births in Anglesey were in this category. The next table gives data for Anglesey 1949-1951.

Table 4.

	<i>Legitimate.</i>	<i>Illegitimate.</i>
Stillbirth rate	25	25
Infant mortality rate	43	89
Total wastage	68	114

It will be noted that the stillbirth rate in Anglesey is the same for legitimate and illegitimate births, but the infant mortality rate among illegitimate infants is double that of legitimate babies. There is obviously considerable room for improvement here, and had the illegitimate rate of wastage in the county been the same as that of legitimate infants, there would have been a drop of 3 points in the total wastage. The reason why removing this disparity has not a greater effect on the overall wastage rate is of course that illegitimate infants constitute only a comparatively small proportion of the total births.

Apart from the divergencies noted between legitimate and illegitimate infants it has for many years been recognised that there are wide differences in the wastage experienced by infants who, though legitimate, are born into different strata in society. The Registrar-General classifies occupations into five so-called social classes: Class I is the administrative and professional class; Class III is the group of skilled workers, artisans, etc.; Class V is unskilled labour, while Class II is intermediate between Classes I and III, and Class IV is intermediate between classes III and V.

Using this classification of occupations, we can allot legitimate infants to the appropriate social class according to the father's occupation. This information has been obtained for all cases of stillbirth and infant death.

In order to calculate the rates of wastage in the different social classes, the distribution by social class of live births was estimated as follows: the district registrars of births submit a monthly return showing the occupation of the father in all cases of legitimate live births. All births notified in every third month were classified, using the Registrar-General's 1950 classification, and the proportions found in the sample were then applied to the total of live births in the three year period. Because the numbers were small, Classes I and II were amalgamated, and so were Class IV and V, not so much because the numbers were small, but rather because the distinction between these two classes is not always easily drawn.

We can now consider in detail the wastage in the three groups—stillbirths and early neonatal deaths, late neonatal deaths and post-neonatal deaths—including the incidence of wastage in the different social classes.

Stillbirths and early Neonatal Deaths

The factors involved in early neonatal deaths are closely allied to those which are involved in the causation of stillbirth, and for that reason we can profitably consider these two together.

Social Class

The social class rates per 1,000 total births for this age period were as follows:

I—II	38
III	50
IV—V	47
Illegitimate	63

In the present series there were 3 deaths of illegitimate infants from infanticide or neglect at birth. This number, though small, has a disproportionate effect, and if these three are excluded the illegitimate rate falls to 50. It would appear, therefore, that there is no definite evidence of a gradient between the social classes in Anglesey, for deaths in this age period, if we exclude the three deaths referred to. Social class I—II appears to be slightly better off than the remainder, but the wastage in social class I—II at this age period is approximately equal to that of all births in England and Wales in 1949. If therefore there was in England and Wales at the same time a social

class gradient, and past experience would lead us to expect that this is so, we must conclude that all classes in Anglesey are probably worse off than the corresponding classes in England and Wales, although possibly the disparity may not be the same in all classes.

Age and Parity

Among the factors concerned in wastage from stillbirths and early neonatal deaths, the age of the mother and the parity of the maternity are important. There are data published for England and Wales which enable us to assess the influence of these two factors on stillbirths, and because of the aetiological relationships referred to, influences of a similar kind will affect early neonatal deaths. Details were obtained of the age of the mother for 97 per cent. of all maternities of Anglesey mothers during the years 1949/50, and the estimated distribution of all maternities during the three year period was derived from these. Similar information concerning parity of all legitimate maternities were obtained. The rates that are quoted below are based on these estimated distributions.

The Effect of Maternal Age

Table 5 gives the percentage distribution of all Anglesey births by the age of the mother, together with the percentage distribution of births in England and Wales in 1949 and 1950. (Data for 1951 not yet published for England and Wales). The stillbirth and early neonatal death rate for Anglesey is also shown.

Table 5.

ESTIMATED PERCENTAGE DISTRIBUTION OF ALL BIRTHS

<i>Maternal age</i>	<i>Anglesey 1949/51</i>	<i>England and Wales 1949/50</i>	<i>Stillbirth and early neo- natal death rate per 1,000 total births—Anglesey 1949/51</i>
—20	5.7	4.4	59.6
20—24	25.4	27.4	37.9
25—29	30.4	33.1	33.0
30—34	19.6	19.2	43.1
35+	18.9	15.9	60.7
	100.0	100.0	

It will be noted that the wastage among very young mothers and among old mothers is high. (This trend is to be seen also in the England and Wales figures for stillbirths.) But it will be noted from

the above table that relatively more Anglesey mothers were in the unfavourable age groups.

The effect of Parity

The following table gives similar information concerning the parity of legitimate maternities. It will be noted that the wastage at high parities increases, and it will also be noted that the percentage of Anglesey maternities at high parities is higher than in England and Wales.

Table 6

ESTIMATED PERCENTAGE DISTRIBUTION OF ALL LEGITIMATE BIRTHS.

<i>Parity</i>	<i>Anglesey 1949/51</i>	<i>England and Wales 1949/50</i>	<i>Stillbirth and early neo- natal rate per 1,000 total births Anglesey 1949/51</i>
Primi gravidae...	33.7	39.0	45.5
1—3	53.5	53.6	36.1
4 and upwards...	12.8	7.4	65.1

It would seem therefore that the distribution of maternities in Anglesey, both by age and by parity, are relatively unfavourable. The two factors of course cannot be considered in isolation because, as a matter of common experience, age and parity are usually associated, i.e., an old mother is more likely to be having her fourth or successive baby than is a young mother, and a young mother is more likely to be having her first baby than is an old mother. The numbers concerned in Anglesey are small, and therefore it would be unsafe to place too much reliance on rates computed for individual age-parity groupings. As far as stillbirths are concerned, we can however, by a simple statistical device, assess the importance of these two factors working together. The necessary data have been published for the country as a whole for 1949 and 1950 to enable us to compute stillbirth rates by age-parity groupings, and as these rates are based on large numbers they are statistically reliable. We also know the distribution by age-parity of legitimate maternities in Anglesey. If therefore we construct a hypothetical population of maternities for England and Wales, having the same distribution as the Anglesey population, and apply to this hypothetical population the age-parity specific rates observed in England and Wales in the years mentioned, we obtain by summation the number of still births that would have occurred in England and Wales in 1949 and 1950 if the age-parity distribution of maternities had been the same as that of Anglesey,

although the age-parity specific rates had remained unchanged. From this result it is a short step to compute what would have been the still-birth rate in England and Wales in the years mentioned on these assumptions. The result is that the stillbirth rate in England and Wales would have been 13 per cent. higher than the rate that was actually recorded. We have already found that the excessive wastage in this age group in Anglesey is approximately 15 per cent. We must conclude therefore that this excessive wastage is largely accounted for by an adverse distribution of local maternities by age and parity. It would be interesting to speculate on the reasons for regional differences in child-bearing customs, but it is doubtful if the sociological changes needed to remove the disparities could be directly effected by any action open to a health committee. When we consider, however, the mechanism whereby this adverse age-parity distribution produces its effect, we can perhaps find room for preventive action.

Prematurity

Undoubtedly the most important way in which it works is by increasing the danger of premature birth. It is now well established that premature birth is more likely to occur with first maternities, particularly if the mother is very young or old. Furthermore, premature birth occurs more commonly among maternities of high parity. During the period under review the percentage of live births in Anglesey that were premature was 5.9. In England and Wales in 1949 the percentage was 5.0. The difference of 0.9 per cent. appears at first sight to be small. But such is the vulnerability of the premature infant that this difference makes for a disparity of 3 or 4 points in the overall wastage. Mortality from premature birth can theoretically be reduced, firstly by reducing the incidence of premature birth, and, secondly, by reducing the mortality among infants born prematurely. In considering how the incidence of premature birth can be reduced we are at a serious disadvantage in that the cause of premature birth is not definitely known. There are, however, a number of factors which are found in practice to be associated with prematurity. The age and parity of the maternity have already been referred to. There are also social class differences in the incidence of premature birth. These may be of course partly related to age-parity differences, but there is a good deal of evidence that other factors enter into the social class disparities. Foremost among these is the state of maternal nutrition, and what might be termed the hygiene of pregnancy. Then again there are abnormal conditions which arise in the course of pregnancy which pre-dispose to a premature termination. The causation of many such conditions is imperfectly understood, but there are some of them that are, nevertheless, amenable to treatment.

Ante-natal Services

It now becomes clear how ante-natal services can contribute to a reduction in the incidence of prematurity and therefore to a reduction in the overall wastage of infant life. Quite apart from the medical supervision which will enable those abnormalities which are amenable to treatment to be recognised at an early stage, there is considerable scope for the education of the expectant mother. She should be taught particularly to appreciate and prepare for her own particular nutritional needs. She can be taught also in the general management of her pregnancy.

The ante-natal services provided in the county during the period conformed to the now generally accepted pattern. There were available the services of general medical practitioners, the services of district nurse/midwives, and the services of ante-natal clinics. During the period under review the number of new cases registered at ante-natal clinics in the county was 1,943. This number is equivalent to 75 per cent. of births during the same period. In addition to the mothers attending ante-natal clinics in the county there was a further number (which is not exactly known) who attended the ante-natal clinics held at the County Hospital, Bangor. It would seem therefore that approximately 4 out of 5 expectant mothers attend at an ante-natal clinic. From this point of view the record is very satisfactory. On the other hand, to register as a patient at an ante-natal clinic is in itself no guarantee of *adequate* ante-natal care, and from the records we find that approximately 40 per cent. of cases only attend on one occasion. To obtain the full benefit of clinic services attendance should be regular and frequent, and here there is clearly room for improvement. In addition to the clinic services there were during the period 6,296 domiciliary visits paid to expectant mothers by district midwives. This represents an average of 2.4 visits to each of the births occurring during the period. Although the records show that the work of the midwives has been done conscientiously, nevertheless there are many cases where the expectant mother fails to consult the midwife at all or leaves it until too late in pregnancy for supervision to be fully effective. There is no information available of the amount of ante-natal care undertaken by general practitioners as part of their services with the Executive Council.

The value of ante-natal clinic work may be seen from the fact that 52 per cent. of the cases of stillbirth and early neonatal death occurring during the period (60 out of 114 cases for which records are available) did not attend at an ante-natal clinic. At a rough estimate therefore it would seem that to attend a clinic even on one occasion halves the risk of the pregnancy terminating in a stillbirth or early neonatal death.

Mortality among Premature Infants

Turning to the other method of reducing the wastage from premature birth, namely, the reduction in the mortality of premature infants, we find that the great majority of such infants are born and nursed in hospital. There were during the period 151 live births notified as being premature. Of these 137 were born in hospital or nursing home, and only 14 were domiciliary cases, and one of these was transferred to hospital for nursing soon after birth. Of the remaining 13, who were both born and nursed at home, 12 lived at least 28 days. Details for 1951 are not available, but in 1949/50, of 84 premature infants born and nursed in hospital or nursing home, 18 deaths occurred before the end of 28 days.

Not only therefore did the great majority of premature births occur in-hospital, but the mortality among premature infants born and nursed at home compares very favourably with those born and nursed in hospital. When only one death occurs among premature babies born and nursed at home in a period of 3 years, there can be little scope for any dramatic improvement in the wastage rates by concentrating attention on the domiciliary care of premature infants. The mortality among premature live born infants can be substantially reduced only as the result of measures which the hospital authorities alone are in a position to adopt.

Late Neonatal Deaths.

It will be recalled that deaths at this stage accounted for one quarter of the total wastage.

Social Class

The social class rates in Anglesey during the period per 1,000 infants surviving to the end of the first week were as follows :

I—II	7
III	10
IV—V	7
Illegitimate	13

There is here no evidence of a definite gradient, and as the numbers on which the rates are computed are small, we must conclude that the rates for all classes in this age period are equal within the limits of sampling error. As the rate for England and Wales in 1949 was 3.7 we must conclude further that all classes in Anglesey experienced an unfavourable rate in this age period.

Institutional Midwifery.

In analysing the data there is one factor of paramount importance in this group, namely, the influence of institutional midwifery. Table

7 gives particulars of all births notified during the period by place of occurrence.

Table 7.

<i>Place of Birth.</i>	<i>Number.</i>	<i>Percentage of all Births.</i>
County Hospital, Bangor	1,068	41
Gors Maternity Home, Holyhead	836	32
Domiciliary	619	24
Elsewhere	74	3
Total.....	2,597	100

From the information available about the individual cases it is possible to compute appropriate rates of wastage according to place of birth and these are shown in the next table.

Table 8.

<i>Place of Birth.</i>	<i>Wastage per 1,000</i>	
	<i>Stillbirths and early neonatal deaths</i>	<i>Late neonatal deaths</i>
County Hospital	73.5	16.1
Gors Maternity Home	10.8	1.2
Domiciliary	39.0	1.7

The wastage from stillbirths and early neonatal deaths is an index of the type of case dealt with in the three groups. There is a high degree of selection exercised in the case of the County Hospital and of the Gors Maternity Home. In the former all cases where difficulty is anticipated are booked and all emergencies are admitted. In the latter, every attempt is made to ensure that only straightforward cases are booked and emergencies are not usually admitted. The domiciliary confinements include not only those mothers who deliberately prepare to have their babies at home, but also those cases where, from neglect or concealment, the midwife and the doctor are only called in when labour is in progress. These circumstances serve to explain the differences observed in the wastage rates from stillbirth and early neonatal deaths.

When, however, we turn to wastage in the late neonatal period, that is to say, deaths occurring after the first week of life, there is a very great disparity between the County Hospital and the other two groups. To some extent this reflects the continuing effect of the selection mentioned above. Because difficult cases and emergencies are treated at the hospital more of the infants born there will be premature and therefore subject to a higher mortality. Not only so, but it has been the practice to transfer infants born prematurely at the Gors Maternity Home to the County Hospital for nursing. There is however another factor involved, namely the incidence of hospital infection.

During the period under review there were 11 deaths from infections of all kinds in this age group, and of these 10 were infections contracted in hospital. 8 of these 10 were premature infants and the death was ascribed to gastro-enteritis in a premature infant. To appreciate the full effect of hospital infection we should not of course confine attention to this particular age group, as there were in addition to the 10 mentioned another 7 deaths from hospital infections, 6 of them occurring in children aged 1-3 months. The total mortality ascribable to hospital infections therefore constitutes an appreciable fraction of the total wastage. It must be stressed that in practice this mortality is not entirely preventable. Frequently the infection serves only to administer the *coup de grâce* to an infant so immature as to have in any event but a slender hold on life.

As may be seen from Table 7, approximately three quarters of all births during the period occurred in institutions. This is a complete reversal of the position obtaining only a few years ago. The trend towards institutional midwifery is of course general throughout the country. It is necessary, however, to stress that an indiscriminate resort to institutional confinements carries with it a price to be paid. Making all due allowance for the selection of cases exercised during the period there can be no doubt that there is a small but definite risk of contracting a fatal infection attaching to being born in hospital. Overworked maternity departments are liable to be attacked by outbreaks of infection, and the danger extends not only to the infants born in hospital, but also to infants admitted for other conditions. Of the 17 infections contracted in hospital during the period, three were infants admitted to hospital after birth for treatment.

The recent action taken by the hospital authorities to impose stringent restrictions on admissions to the County Hospital is therefore to be welcomed. The action of the Hospital Management Committee in providing a separate and distinct unit which local authorities could use for the segregation of new born babies under-

going vaccination by B.C.G. was also a wise move in that it relieved the pressure on the County Hospital.

Deaths after the Neonatal Period.

Deaths occurring after the end of the first month of infant life account for 35 per cent. of the excess wastage in Anglesey.

The social class rates in the period under review per 1,000 infants that survived to the end of the first month were as follows :

I—II	12
III	12
IV—V	35
Illegitimate	40

Here we see evidence of a distinct difference in the social class rates. Infants born in the lower strata of society and illegitimate infants suffer a mortality approximately 3 times that of their more fortunate contemporaries. The corresponding rate for England and Wales in 1949 was 13, but as the England and Wales mortalities fell in 1950/51, and as past experience leads us to expect a very distinct gradient in the country as a whole in this age period, we should therefore expect that Classes 1—II and III in Anglesey are probably worse off than the corresponding classes in the country as a whole. Nevertheless, the really serious disparity occurs among Classes IV—V and illegitimate infants, and a reduction in the mortality rate of these groups to the England and Wales level would have meant a reduction in the overall wastage in Anglesey by 7 points.

There were during the period 48 deaths in this age group, and full details are available for 47 of these. The major group of causes of death in this age period consists of infective conditions of all kinds, and together they account for 38 out of the total. Next in importance comes congenital malformations, which account for 8 deaths.

There were during the period 4 deaths from “asphyxia in bed,” “inhalation of vomit,” or similar causes. Evidence is accumulating that these deaths are properly to be ascribed to infective causes, and where full investigation is made fulminating infections of the respiratory system can be demonstrated at post mortem examination in many cases. In conformity with this view, these 4 deaths have been included in the 38 deaths from infections.

An infection may be contracted in hospital or at home. Reference has already been made to the importance of hospital infections in this area during the period under review, and 6 of the 38 cases were, as has been stated, hospital infections.

When we consider the remaining 32 cases we can see how infections contracted at home are predominantly a cause of death among the lower classes of society.

Table 9.

DEATH RATES PER 1,000 BASED ON SURVIVALS TO POST NEONATAL PERIOD.

<i>Cause</i>	<i>Classes</i>	<i>Classes</i>
	<i>I, II, III.</i>	<i>IV, V & Illeg.</i>
Infections at home	5.4	28.4
Other causes	6.8	7.1

When we find that certain classes in society have a mortality five times that of certain other classes, we must conclude that this mortality is largely preventable. In considering how this avoidable wastage could be prevented we shall consider two factors: the method of infant feeding and the degree of overcrowding in the home.

Infant Feeding

There is a great weight of evidence pointing to the benefits of breast—as opposed to artificial—feeding. The mortality, and also according to some authorities the morbidity, among breast-fed infants is considerably lower than among artificially-fed infants. The following details have been obtained for 31 of the 32 fatal infections contracted at home.

Table 10.

<i>Social Class</i>	<i>Breast-fed.</i>	<i>Artificial or mixed feeding.</i>
I, II, III	—	7
IV, V and Illeg.	3	21

These figures suggest a definite association between artificial feeding and a fatal infection, and it is noteworthy that there were no deaths among breast-fed infants in social classes I—III.

The percentage of infants aged 1—6 months in attendance at Infant Welfare Clinics who were breast-fed has never exceeded 50 per cent. during the period under review. Over the period, as a whole, the average is 40 per cent. It is not possible to say how these proportions compare with the experience of England and Wales, as no

national data are published. Nevertheless it is clear that there is considerable scope for improvement and there is no doubt that if we were to increase appreciably the percentage of infants that are breast-fed it would have a favourable effect on the infant mortality rate.

Overcrowding in the Home.

How does an infant, aged say 3 months, come to contract a serious infection? The source is usually some adult or child in his immediate vicinity. A mild infection, such as the common cold, may be disseminated in the home and, if contracted by an infant, may have fatal consequences. It is obvious, therefore, that housing conditions will have a bearing on the wastage of infant life in this age group.

The degree of overcrowding in the home was investigated in the fatal cases. Obviously there are many factors involved, and due allowance must be made for these before we can assess the importance of overcrowding as such. One such factor is parity. *A priori* we should expect a 10th infant to be born into an overcrowded house more often than a first infant. Another factor is social class. The infant of a general labourer is subject not only to possible adverse housing conditions but also possibly to other adverse influences, such as poverty, ignorance, etc., which are distinct from housing *per se* although they may all go hand in hand.

As the numbers with which we are concerned are small we cannot indefinitely sub-divide our categories and still hope to obtain reliable rates. There is, however, a method whereby we can seek to isolate one factor under examination. If we draw a sample from all the births, such that we match as closely as possible for those factors whose disturbing effect we wish to eliminate, we can compare the result in this "control" sample with the deaths, with respect to the factor whose influence we wish to examine. This has been done for the post neonatal deaths from infections contracted at home. For each such death controls were drawn from the general births such that the social class of the death and its controls were the same, and also the parity of the maternity. In addition, deaths and their controls were matched for type of district (urban or rural) and for place of birth. The latter factor was introduced in order to seek to eliminate the effect, if any, of infections contracted in hospital but developing to a fatal consequence at home, and also to eliminate any residual differences ascribable to ante-natal or intra-natal factors. This method of matching can of course only be adopted where the general population from which the controls are to be drawn is accurately defined. We had available the necessary details for 97 per cent. of the births occurring in 1949/50, and this was the "universe" from which the control sample was drawn. Where exact matching was

not possible, the death concerned was eliminated from further consideration. Exact matching was only possible for 17 of the 32 post-natal deaths. Had it been possible to include the 1951 births in the population from which the controls were to be drawn it might have been possible to match more than 17. One result of matching in this way is that the control sample is obviously larger than the number of deaths. There were in all 55 infants in the control sample.

There are several ways in which the results of this process can be set out. The table below gives the mean ratio of the number of persons in the household to the number of living rooms in the two groups—viz., the deaths and the controls.

Table 11.

MORTALITY IN POST-NEONATAL PERIOD FROM INFECTIONS CONTRACTED
AT HOME.

	<i>Mean ratio: persons per room.</i>
Controls	1.08
Deaths	2.16

After eliminating the possible effects of social class, of parity, of type of district and of place of birth, there remains a great disparity between the infants that die and those that live, with respect to a simple index of overcrowding in the house. When the data are analysed in detail it is found that this disparity is evident in all social classes considered separately.

It cannot be affirmed that these figures *prove* the importance of overcrowding. Nevertheless the figures are definitely suggestive. The results of the 1 per cent. sample taken at the time of the 1951 Census have recently been published, and these show that whereas 2 per cent. of the population in England and Wales live more than two persons per room, the percentage in Anglesey is over 6 per cent. It is significant that the infants that died in Anglesey after the first month from infections contracted at home seem to have been drawn for the most part from this 6 per cent. of the county's population.

The Availability of Medical Services.

In the Annual Report for 1947 my predecessor (Dr. G. J. Roberts) refers to "remoteness from, or reluctance to seek, medical or nursing aid" as a contributory factor in the high infant mortality experienced in the county in the past. The available data have been examined to see whether there is any evidence that these factors still play an important part. It is not possible to compare exactly the mortality

rates for individual causes of death because a precise correspondence with the cause-categories used by the Registrar-General cannot always be obtained. Nevertheless, certain well defined causes can be recognised and the table given below shows the number of deaths from certain causes, compared with the number expected had the death rate which obtained in England and Wales in 1949 (the last year for which national statistics of this kind are available) applied to the Anglesey infant population.

Table 12

<i>Cause.</i>	<i>Actual No.</i>	<i>Expected No.</i>
Pyloric stenosis	1	0.6
Intussusception, hernia, etc.	3	3.3
Haemolytic disease of the new-born...	1	1.8
Diphtheria	0	0.0
Tuberculosis	0	0.3

Taking the experience of England and Wales as a yardstick, these figures do not suggest that there is any inadequacy in local diagnosis or treatment.

The information sought by the health visitors when enquiring into fatal cases included certain details about the illness and sufficient data are available in 16 post-neonatal deaths from broncho-pneumonia, bronchitis, etc., to enable certain conclusions to be drawn. In 3 cases out of 16 there appeared to have been definite delay on the part of the parents in calling on medical aid. But in the remaining cases the doctor saw the child within a day or two of the commencement of the fatal illness. In 12 out of the 16 cases the infant was nursed and died at home. In 3 of those admitted to and dying in hospital there was a lapse of two days or more between the time the child was first seen by the doctor and removed to hospital.

The above figures do not suggest that medical aid was not available or was not sought. It is, however, surprising that not more use was made of hospital treatment for seriously ill infants who required skilled nursing and specialized treatment.

Conclusions

The following conclusions are drawn from this analysis of infant life wastage.

1. The excessive wastage in Anglesey is approximately equally divided between wastage from (a) stillbirths and early neonatal

deaths, (b) late neonatal deaths, and (c) deaths after the post neonatal period.

2. The excessive wastage from stillbirths and early neonatal deaths is associated with an adverse distribution by age and parity of Anglesey maternities compared with England and Wales. Quantitatively this adverse distribution accounts adequately for the excess.
3. The adverse distribution is reflected in an increased incidence of premature birth in Anglesey and measures which might effect a reduction should be developed, in particular, raising the level of adequacy of ante-natal care and efforts should be made to improve maternal nutrition and the hygiene of pregnancy.
4. In the late neonatal period a major factor in recent years has been an undue mortality from infections contracted while in hospital. This must be regarded as part of the price paid for an indiscriminate resort to institutional midwifery. The prevention of this mortality is primarily a matter for the hospital authorities.
5. In the post-neonatal period two factors are examined. The first is breast feeding. The percentage of infants that are breast-fed is unduly low, and efforts should be made to raise this proportion. In the second place overcrowding in the home appears to contribute materially to the high death rate from infections experienced in this age period.
6. Although their number is small, illegitimate infants contribute materially to the excessive wastage and appear to be particularly liable to fatal infections in the post-neonatal period.

